

Ol. Amygd. Ang.
S.A.P.

Ol. Anisi Ang.

Ol. Anisi, China
Star

Ol. Anethi Ang.

Ol. Anthemidi
Ang.

Ol. Bergamot. Se-
lecta

Ol. Cajuputi

Ol. Carui Ang.

Ol. Carui Exot.

Ol. Caryophylli

Ol. Cinnamomi
cort. ver.

Ol. Copaibæ Ang.

Ol. Coriandri Ang.

Ol. Cubebæ Ang.

Ol. Eucalypti
Glob.

STEVENSON



HOWELL'S

STANDARD

ESSENTIAL

OILS

OF

GUARANTEED

PURITY

SAMPLES AND QUOTATIONS UPON APPLICATION

Ol. Juniperi Ang.

Ol. Lavandulæ
Mitch.

Ol. Lavandulæ
Flor. Exot.

Ol. Limonis Se-
lecta

Ol. Menth. Pip.
Ang.

Ol. Menth. Pip.
Exot.

Ol. Menth. Viridis

Ol. Myristicæ

Ol. Pimentæ

Ol. Pini Sylvestris

Ol. Rosmarini

Ol. Rutæ

Ol. Sabinæ

Ol. Santali Flav.
Ang.

Ol. Sinapis

**STANDARD WORKS, 95^A SOUTHWARK ST., LONDON, S.E.
AND 128 HOPE STREET, GLASGOW.**

"AGREED AT LAST."

THE Statuette, as drawing below, is effectively produced in Terra Cotta, the likenesses of the two great political leaders being most striking, and their expression clearly shows they have at last found a topic on which no difference of opinion can exist, viz., that "Hockin's Acme Cones are the best."

We shall present this striking group, which is 18 inches high, with all first orders for £2 10s. worth of our

"ACME" BRAND PURE MENTHOL CONES

(not more than £1 in value to be taken in 1d., 2d., and 3d. Cones.)

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NEW PATTERNS, SPECIALLY SALEABLE.

No.

*217r. Glass Show Bottle, with foot, as fig. 88, 1/8 per doz.

*217A. Glass Show Bottle, with foot, as fig. 161, 3/- per doz.

*214A. Glass Show Bottle, with foot, as fig. 161. This has a very large Cone. 4/3 per doz.

220. Cone Shape, as fig. 203 each in slide box, 1 doz. in Outer, extra size, 4/3 per doz.

*221. Large Flat Draughtsman, very large Cone (120 grains), 4/9 per doz.

222. Elegantly cut Show Glass Bottles, as fig. 222, 3 cuttings, 9/- per doz.

224. Enamelled Tin Box, with Printing on box, 30 gr. Cone, 1/6 per doz.



1d. CONES.

No.

219. Willow Boxes, bottle shape, 3 doz. on card, 6/- gross.

219r. Willow Boxes, Barrel shape, 3 doz. on card, 6/- gross.

219a. Willow Boxes, Acorn shape, 3 doz. on card, 6/- gross.

2d. CONES.

202s. Polished Willow Boxes, bullet shape, 12/- gross.

201s. Polished Willow Boxes, barrel shape, 12/- gross.

206s. Polished Willow Boxes, cone shape, 12/- gross. 2 doz. on card.

3d. CONES.

207s. Polished Willow Boxes, Draughtsman shape, 18/- gross.

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We only quote the most saleable patterns here. Detail of all shapes on application.

⚠ We have been informed that a report is being circulated that our Menthol is adulterated, and we will gladly present anyone with a cheque for **£10** who will give us evidence that will enable us to proceed against the perpetrator of this false statement.

HOCKIN, WILSON & CO.

13 to 16 NEW INN YARD, 186a TOTTENHAM COURT ROAD, LONDON, W.

CATALOGUE OF SUNDRIES AND SPECIALTIES FORWARDED ON RECEIPT OF BUSINESS CARD.

The Chemist and Druggist

SUPPLEMENT

Businesses Wanted.
Businesses for Disposal.
Premises to Let.
Auction Sales.

SATURDAY, JULY 12, 1890.

Partnerships.
Situations Vacant.
Situations Wanted.
Miscellaneous.

CHEMISTS' TRANSFERS.

MESSRS. ORRIDGE & CO., 32 LUDGATE HILL, E.C.

CHEMISTS' TRANSFER AGENTS,

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

The business conducted by Messrs. ORRIDGE & Co. has been known as a Transfer Agency since the year 1845, and is well known to all the leading firms in the Trade. VENDORS have the advantage of obtaining an opinion on value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment. PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain.

1. —£1,950.—LONDON, S.E.—Thickly-populated locality: Retail, Dispensing, and Prescribing Business; returns from *profitable trade* £1,350 yearly; large shop and good stock; commodious house attached; vendor having purchased a larger business is the sole cause of sale; price about £1,250; worth attention.

2. —£520.—LONDON SUBURB (near the Crystal Palace).—Good-class Retail and Dispensing Business; returns about £520 yearly, *good profits*; well-fitted shop and good stock; held on lease; good garden attached to house; price about £475.

3. —£900.—LONDON, N.—Retail and Prescribing Business, situate in main road; returns, chiefly cash, between £900 and £950 yearly, *profits being good*; single-fronted shop; good appearance; house held on lease, 16 years unexpired; price £800.

4. —£500.—LONDON, N.W.—Handsomely-fitted shop; good Retail and Dispensing; returns £500 yearly; 6-roomed house and shop; held on lease; rent £70; immediate possession; price £400.

5. —£800.—LONDON, N.W.—Retail and Prescribing Business; returning between £500 and £600 yearly; single-fronted well-fitted shop, with large house; price £400; trial allowed if wished.

6. —£550.—MIDDLESEX.—Retail and Dispensing Business; corner shop; well fitted and stocked; returns over £550 yearly, *very profitable*; small house, low rent; the business would suit for a branch; price £450.

7. —£700.—KENT.—Good town: Retail and Dispensing Business; returns last year £700, *increasing, with good profits*; handsomely fitted shop and good stock; large and convenient house, on lease; price about £500, or reasonable offer considered.

8. —£3,000.—MIDLANDS.—Valuable Retail and Special Proprietaries in great demand; returns *net profits* rather over £1,000 yearly; the investment of about £3,000 is necessary; particulars will be given and required.

9. —£400.—OXFORDSHIRE.—Good-class increasing Business; returns at present about £400 yearly; well-fitted corner shop and good stock; good house attached; vendors will accept £375.

10. —£1,000.—NORTH OF ENGLAND.—Large manufacturing town; good-class Retail and Family Business; returns about £1,000 yearly; large handsome shop and good stock; commodious house; rent £55; large flower and vegetable gardens, stable and warehouse; about £800 required.

11. —£1,100.—WATERING-PLACE (Inland).—Very old-established Business for disposal, in consequence of vendor's ill-health; returns over £1,100 yearly; *profits more than average*; a prompt purchaser required; terms liberal; particulars on application.

12. —£600.—KENT.—Retail and Dispensing Business of good class (unopposed); returns nearly £600; *net profits* £250; well-fitted shop and large stock, at low rental; convenient house, good garden attached; about £600 required.

13. —£2,000.—SUFFOLK.—Mixed Country Business; very old-established concern; returns £2,000, including small Wholesale, which can be extended; excellent premises, held on lease at low rental; capital investment, and nucleus of an extensive trade; small premium only required; stock and fixtures at valuation.

14. —£800.—SURREY.—Situate in a very pleasant locality: Retail and Dispensing, first class; returns £800 yearly; *profits above the average*; the shop is handsomely fitted, and good stock; comfortable house and good garden, with stabling; rent very moderate, held on lease; price £750, or offer considered.

Particulars of any of the above will be furnished on application.

N.B.—NO CHARGE TO PURCHASERS.

Other Businesses, Town and Country; particulars free on application. Personal applicants receive Messrs. O. & Co.'s direct attention and advice, where required, free.

TERMS FOR VALUATION ON APPLICATION. APPOINTMENTS BY POST OR WIRE HAVE IMMEDIATE ATTENTION.

Messrs. ORRIDGE & Co. invite communications from COLONIAL and FOREIGN firms where business of a confidential nature requires the especial attention of a London agent.

SPECIAL NOTICE.—TO PRINCIPALS AND ASSISTANTS.

MESSRS. ORRIDGE & Co. Register Vacancies for Situations FREE OF CHARGE.

ORRIDGE & CO., 32 Ludgate Hill, LONDON, E.C.

SALES BY AUCTION.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

QUININE WORKS FOR SALE.

ON MONDAY, 21st July, at 1 P.M., the excellently appointed and thoroughly well fitted CHEMICAL WORKS, situated at No. 4, Rue de l'Est, in the town of

IVRY-PORT

(Department of the Seine, France),

a short distance by rail from Paris, will be offered for SALE at AUCTION, on behalf of the present Proprietor, by Maître G. ROBIN, Notary Public, 62 Boulevard Sébastopol, Paris, of whom full particulars may be obtained.

The works are specially adapted for the manufacture of Fine Chemicals, Quinine Salts and other Alkaloids. The preparation of Sulphate of Quinine, other Cinchona derivatives, and Salts of Barytes has been actually carried on in them for many years.

Reserve Price, 10,000 francs.

Long lease, with option of purchase.

SALE BY TENDER.

WEST KENSINGTON.

MESSRS. BERDOE & CO. are instructed by the Proprietor (who is going abroad) to Sell by Tender the old-established and unopposed Light Retail, Dispensing, and Prescribing Business, which he has for 10 years successfully conducted at 65 Blythe Road, Brook Green, W.; returns are £700 yearly, very few patents; low rent, on lease, 8-roomed house, private entrance; stock and fixtures are of the estimate value of £350. Buyers seeking a business of this size should see it at once, as it will be sold a bargain, a very low reserve being fixed, offering a rare opportunity to any young man wishing to commence business with about £350. Tenders received by us at our offices up to Thursday, the 24th day of July.

Full particulars and form of Tender on application to Messrs. Berdoe & Co., 30 Jewry Street, Aldgate, E.C.

FOR SALE.

TO WHOLESALE DRUGGISTS, RETAIL CHEMISTS, DRYSALTERS, AND OTHERS.

TO be SOLD by PRIVATE TREATY, that old-established Business, carried on for many years by the well-known firm of Messrs. Grindley & Son, of Northgate Street, Chester. Full particulars of the same can be had on the premises, or from Messrs. Roosc, Mahon & Howorth, Chartered Accountants, 26 North John Street, Liverpool. Terms cash.

F. J. BRETT,

VALUER, LEICESTER,

60 St. Stephen's Road.

References to principal London and Provincial Wholesale Houses, also to numerous clients throughout the United Kingdom.

BUSINESSES THOROUGHLY INVESTIGATED FOR BUYERS. 20 YEARS' EXPERIENCE.

£3,500 RETURNS.—Within an hour of London.—Old-established General, Mixed Retail, Prescribing, and local Wholesale; large garden, good house, desirable locality; net profit about £500; at a valuation of stock and fixtures about £1,200; capable of considerable increase; would suit two brothers well who are not afraid of work.

SUSSEX.—Light Retail and Dispensing; good prices; returns £530; price £450; rent £30.

MIDLANDS.—General Retail, Prescribing, &c., with a little Wholesale; returns £1,100; price £800.

LANCASHIRE.—Returns £1,700; Mixed Retail, with Prescribing and fair Dispensing; Patents store prices; price £800, or small goodwill and valuation.

WILTS.—Returns £500; good-class Retail, Dispensing, and Prescribing; two large gardens; price about £400.

Mr. Brett has buyers of good-class Businesses, returning £1,000 to £2,000. Vendors can at once be supplied with cash buyers.

MESSRS. BERDOE & CO.

CHEMISTS' TRANSFER AGENTS & VALUERS,

30 JEWRY STREET, ALDGATE, E.C.

Established 1870.

VENDORS will find our Offices a quick medium for the Sale of genuine Businesses. Strict confidence guaranteed. Several good-class Businesses wanted returning £700 to £1,500. Town or country.

PURCHASERS are invited to apply (stating their requirements) for particulars of businesses, sent free on application.

NO CHARGE TO PURCHASERS.

SOUTH COAST.—Fashioable resort; first-class Dispensing Business; returning £1,250, increasing; large house; handsomely fitted shop; well stocked; price about £1,200; strictly genuine.

HOME COUNTY.—Twenty-five miles out; unopposed Retail, Dispensing, and Prescribing Business, with little Stationery; returns £800; rent £30; good house and garden; price £500 or offer.

MIDLANDS.—Market town; Retail and Prescribing Business; returns £800, making a net profit of £300 yearly; rent £20; good house, with garden; price £500 or offer.

KENT.—Within 20 miles of London; unopposed light Retail, Dispensing, and Prescribing Business; returns £600; net profit £260; rent £20; good house and garden; price £550.

SUFFOLK.—Unopposed village Business; returning £800, steadily increasing; good house; low rent; price £400; bargain; worth special attention.

DEVONSHIRE.—Attractive locality; light Retail and Prescribing Business; returning £450 at free prices; rent £18; good house; net profit £220, steadily increasing; price £300.

HERTFORDSHIRE.—Unopposed village Business; returning £6 weekly by Assistant, Principal would do £10; rent £15, worth £25; 21 years' lease; good house and garden; price £220.

MIDLANDS.—Unopposed light Retail and Prescribing Business; returns £7 weekly; rent £15; good house, large garden, fruit trees, &c.; price £200; worth attention.

SURREY.—Same hands 32 years; Retail and Dispensing Business; returns £400; net profit £150; rent £26; good house; price £250 or offer.

HAMMERSMITH, W.—We desire to call special attention to the Business in Blythe Road which we offer by tender in another column; returning £700; about £350 will secure it; will stand investigation.

Terms for Sale and Valuation on application.

Messrs. Berdoe & Co., 30 Jewry St., Aldgate, London, E.C.

BUSINESSES FOR DISPOSAL.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

£300 CASH will buy a small but improving City Business yielding over £200 per annum; hours short; no Sunday business. Apply to "Business," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

LANCASHIRE.—Six miles from Manchester; established Mixed Business; several good proprietors; returns nearly £400; low rental; well-stocked shop; price only £320; investigation invited. J. Livesay, Medical Hall, Ashton-under-Lyne.

OXFORDSHIRE.—An old-established light Retail and Dispensing Business; returns £670, capable of increase; good house, garden; satisfactory reasons for disposal; no agents. Address, "Lanollue," care of Messrs. Barron Harvey & Co., Giltspur Street, London.

DEWSBURY, Yorkshire.—For immediate disposal, through death of proprietor, well-established Dispensing and Retail Business; first-class position; exceptional opening for young man; price very reasonable; particulars on application. Address, Peel, 20 Swindon Road, Dewsbury.

An old established Business for sale in one of the principal thoroughfares of Newcastle-on-Tyne; proprietor retiring through ill-health, business includes an old dental connection, which could be advantageously worked up. Applications to John Ismay & Sons, Wholesale Druggists, Newcastle-on-Tyne.

Mr. G. B. CROCKER,

Trade Valuer, Transfer Agent, & Accountant,
15 WALBROOK, E.C.

SUFFOLK.—Unopposed light Retail and Prescribing trade; returns £740 yearly; price £400; rent £20; capital chance for a beginner.

LINCOLNSHIRE.—Mixed Retail and Prescribing trade; returns £1,500; rent £50; valuation of stock and fixtures will be accepted.

HOME COUNTY.—Good-class Country Retail and Dispensing, with a little Stationery and Post Office; giving a net profit of £300 a year; price £50 goodwill, and valuation; part purchase money payable by instalments.

KENT COAST.—Retail and Dispensing; returns £800; price £800; fine commanding premises in centre of busy town.

SUSSEX.—Retail and Dispensing in centre of busy town; returns £550 under a manager; low rent; price £330, or offer.

LONDON, S.W.—Good-class Retail and Dispensing Business; for many years under a manager; handsome pharmacy; price £850.

LONDON, S.—Ready-money Retail and Dispensing, with good sale of proprietaries; returns £800; price £750, or offer; good house.

Valuations for Probate or Transfer conducted in any part of the United Kingdom. Terms on application.

BUSINESSES FOR DISPOSAL—Continued.

DENTAL Practice (old-established), best suburb Manchester; small opposition; rare nucleus; terms nominal. 122/35, Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

DEATH OF PROPRIETOR.—For Sale or Let, the Business of the late Mr. Keith, Chemist, Kirkgate, Leeds; splendidly fitted-up shop, large house with every convenience. For particulars apply, J. Keith, Kirkgate, Leeds.

FOR sale, a Dispensing and Light Retail Business, near Manchester, with Post Office and Telegraph attached; no agents need apply. For particulars, address G., care of T. Jones & Co., Broom Street, Withy Grove, Manchester.

OLD-ESTABLISHED Business; good town in the Midlands; cash Retail trade; excellent house and premises, on lease; cash price, £550; good reason for disposal. A. Z., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

IMMEDIATE possession; Retail, Prescribing, and Dispensing Business, in town of 3,000; average returns £250; very profitable; capable of great increase; perfectly satisfactory reason for disposal. Further particulars from "Chemist," 56 Queen Street, Exeter.

FOR SALE.—An old-established country Business; first-class Dispensing, Prescribing, and Retail, with seeds; no oils or other heavy trade; good prices; increasing returns, at present £800; convenient premises at low rent. Apply "Chemist," care of Mr. Bingham, 106 Cotham Road, Bristol.

LONDON, N.E. —Owing to exceptional circumstances, a Business opened six months ago, doing well, is for disposal; returns increasing, should be quite £300 by Christmas, probably much more; great scope for increase; good profits; rent £50, let off £10. Letters only, Gardner, Vale's Library, Stamford Hill, N.

EDINBURGH.—First-class populous suburb; business capable of great increase.—Nicely-fitted shop and first-class well-assorted stock, all new, for sale, owing to exceptional circumstances, for value of stock and fittings (£300 to £400); half cash, remainder as arranged; stock could be reduced to suit purchaser. Full particulars from Raimes, Clark & Co., Edinburgh.

WORCESTERSHIRE.—Advertiser wishes to sell his Light Retail Business, in town of 6,000 inhabitants; returning £850; net profit nearly £400 after deducting all expenses; good house and garden; cash price £500; will give month's introduction; first time offered. Genuine applications only to "Kino," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

THOMAS TOMLINSON & SON, 9 New Cannon Street, Manchester, have for disposal Chemists' Businesses in Blackpool (branch), about £200; Southport, about £375; St. Helen's, £300; Bradford, about £400; Birmingham, about £500; Nottingham, about £500, with wines and spirits; Stalybridge, £550; outskirts of Bolton, £60; Wales, £500; Hyde, about £800; and several others.

LANCASHIRE.—Country Business; select Retail and Dispensing; returns nearly £400, yearly increasing, good profits; established 4 years; very good and commodious premises, with garden, &c.; small goodwill; stock and fixtures at valuation; excellent opening for teeth extraction and dentistry; references given; inspection invited. "Genuine," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

THOS. TOMLINSON & SON, Chemists' Valuers, 9 New Cannon Street, Manchester, have for disposal in suburb, a Business doing nearly £950 a year, to which several specialties are attached, out of two of which a fortune might be made with capital to carry out, which is the one thing lacking with present owner; serious indisposition and causes which will be explained are sole reasons for disposal; price £450 net.

YORKSHIRE.—To be disposed of, as a going concern, the old-established Wholesale and Retail Drug and Drysaltery Business so successfully carried on by the late B. B. Cowgill, at Sowerby Bridge; good dwelling and warehouse accommodation; this is an opportunity very rarely to be met with. For further particulars to treat apply to the owner, who is retiring from the business, Sowerby Bridge, Yorkshire.

THOMAS TOMLINSON & SON, Chemists' Valuers, Arbitrators, &c., 9 New Cannon Street, Manchester, have for disposal an excellent profitable Chemist's Business in a good manufacturing town about 8 miles from Manchester; returns £800, which might be easily increased to £1,200, as will be shown; best situation in the town and nearest to station; ill health of active partner, and consequently dissolution of partnership, the sole causes of disposal.

BUSINESSES WANTED.

WANTED, in Metropolitan district, a Business or Premises suitable; S.W. district preferred. Letters to Geo. E. Stephens, care of Mr. Daws, 51 King's Road, Chelsea.

WANTED, a good-class country Business, returning about £1200; one that will bear strict investigation; Midlands or West of England preferred. "Exalgin," care of Wright, Layman & Umuey, 50 Southwark Street, S.E.

WANTED, good-class Dispensing and light Retail returning from £50 to £700; South preferred; every investigation required; would entertain a managership with view to early succession. B. P., 23 M'Phraim Road, Tunbridge Wells.

PARTNERSHIPS.

WANTED, by a Chemist, established 1856, a Sleeping or Active Partner, with £500, to develop the business (present return £800). Direct letters to "Octavius," 15 Warour Street, London, W.

BONA-FIDE OFFER.—Wanted, a Partner; must be energetic and fully qualified as a dental surgeon, and be prepared to invest £500; the fullest investigation courted, and references exchanged; the advertiser having two surgeries finds it impossible to do full justice to his practice, which has been established seventeen years. Address, by letter to "Dens," Coventry House, Munster Park, Fulham.

APPRENTICESHIP.

WANTED, an Apprentice, or one who has served part of his time; every opportunity given for acquiring thorough knowledge of the business, and time allowed for study. Mr. Pride, Old Basford.

TO LET.

A JACCIO, CORSICA.—To be Sold or Let on long lease, property of 6½ acres, with pleasure-grounds and park, three substantial houses, wine cellar, stabling (5 horses), and coachhouse; extensive orange, lemon, and cedar groves, well planted with fruit-trees of best varieties; abundant water and complete system of irrigation; two acres of wire-fenced poultry run; large farm of flowers and scented shrubs and herbs for the manufacture of essential oils and perfumes; distillery worked by steam, and complete modern installation in full work. Address, X. Y. I., care of Messrs. B. Bradshaw & Co., Imperial Buildings, Ludgate Circus, London.

SITUATIONS OPEN.

3s. 6d. for fifty words; 6d. for every 10 words beyond.

WANTED, a senior qualified Assistant (indoors) in a good Dispensing business. State age, salary required, R. Fitzhugh Notingham.

WANTED, an Assistant, not under 22 years; good Dispenser; one kept. Apply, with usual particulars, R. Hiscock, Chemist, Coventry.

QUALIFIED Assistant, to manage a Branch in the North; salary (outdoors) £110. P. O., care of W. Toogood, Heddon Street, Regent Street, London.

WANTED, immediately, Junior Assistant, about 20 (outdoors). State age, height, and reference, photo, Robert Cook, Pharmaceutical Chemist Grimsby.

RELIABLE and Permanent Branch Manager wanted; not under 35. Photo, with explicit particulars of experience, &c., to A. Hagou, Chemist, Cardiff.

WANTED, an Assistant in a Drug and Grocery business, willing to assist in either department. State age, salary, and references, H. Lunn, Horncastle.

WHOLESALE Drug Trade.—Wanted, an Assistant for Wet and Dry Counters; must be active, and have had good experience. Apply at 30 St. Mary Axe, E.C.

WHOLESALE.—Wanted, immediately, a Junior Assistant in the Wet room. Apply, with full particulars, Clay, Dod & Co., 52 St. Anne Street, Liverpool.

WHOLESALE Druggists want a Junior Clerk; unexceptional references indispensable. Apply to Langton, Hicks Bros. & Co., 30 Wilson Street, Finsbury.

WANTED, a qualified Assistant to take charge of a business in suburbs; salary and commission. Address, "Statems," 141 Fairfax Road, Horsey, London, N.

WANTED, at once, a qualified Assistant, fully capable of taking charge when required. Apply, with usual particulars, to W. T. Frost, 2 Etham Road, Blackheath, S.E.

QUALIFIED Assistant as Dispenser and Salesman required at once for W. Australia; £120 per annum; passage paid out. Address, W. J. B., Messrs. Street, 30 Cornhill, E.C.

WANTED, an Assistant, about 25; good Dispenser and business habits. Stating references, salary, &c., apply to S. O. Furmston, Pharmaceutical Chemist, High Wycombe.

WHOLESALE.—Wanted, a thoroughly competent and reliable Assistant; one who has a knowledge of Laboratory work preferred. Address, R. Milla, 47 High Street, Made me ul

BALKWILL & CO. require an Assistant accustomed to first-class Dispensing and Retail. Apply, stating usual particulars, and enclosing photo, to 106 Old Town Street, Plymouth.

WANTED, Junior; Minor; outdoors. Frank Sanguinetti, Ealing Dean, W.

WANTED, at once, Junior Assistant or Improver for general work. Apply to J. Floyd, Bury St. Edmunds.

WANTED, Locum-tenens for one month, commencing on July 25th. Apply, J. B. Harris Chemist, South Molton.

R. E. CHARLES, Chemist, Brecon, wants a Junior; not under 20; no Sunday work. Write, stating age, experience, references, and salary required.

JUNIOR Assistant for select Retail and Dispensing business, able to extract teeth. Apply, stating full particulars, to J. Parrott, East Molesey, Surrey.

MANAGER for first-class business, West-end, about 27 to 30, smart in appearance and address. By letter to "Pharmacist," 20 Bloomfield Terrace, Ebury Street, S.W.

ASSISTANT, aged about 22, for good Country Retail and Dispensing. Apply, giving full particulars, enclosing carte, to John Gilling, Pharm Chemist, Saffron Walden.

WANTED, Junior Assistant, in Mixed Country business; indoors; easy hours; no Sunday duty; send photo (which shall be returned) to Manager, 5 Norfolk Street, Lynn.

A JUNIOR Assistant (outdoors) for Light Retail and Dispensing business; no Sunday duty. Apply, with usual particulars, to John Teebay, 45 St. George's Road, Bolton.

T. E. PEARCE, Taylstock, is in immediate want of a steady trustworthy Assistant; abstainer. Send particulars as to age, salary, where last employed, enclosing photo, to be returned.

FOR JAPAN.—Qualified English Assistant; about 25; first-class London experience and references indispensable. Apply by letter to Dakin Bros., Creechorch Lane, Leadenhall Street, London, E.C.

YOUTH wanted; strong and active; one who knows town well. Apply, stating wages required, and in what capacity last employed, by letter only, to D. Messrs. Morris & Porteous, 75 Mark Lane, E.C.

WANTED at once, an Assistant for the season; good Dispenser and of gentlemanly appearance. Apply, stating age, salary required, and references, to W. G. Clark, 1 Westbourne Terrace, South Lowestoft.

ASSISTANT (outdoors) required to take charge for a fortnight, commencing August 12th; letters not promptly answered declined. Usual particulars and references to John R. Marten, 40 London Road, Brighton.

OUTDOOR, immediately.—An experienced Assistant for the Dispensing Counter; salary to commence at £90. Apply, with photo, stating age, height, and other particulars, to E. J. Kitson, The City Drug Stores, Worcester.

A COMFORTABLE home in return for part time offered in a small Dispensing and Pre-scribing business in a healthy and pleasant locality; suitable for a man preparing for examination. J. Shemmoude, Winton, Bournemouth.

A QUALIFIED man to take charge of a pushing City business; one who has had some experience of a Wholesale and Retail preferred; salary and commission. "Society," Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

WANTED, Junior Assistant, also an Improver, used to a country trade. Write, stating full particulars as to experience, references, and salary required, to H. S. Martin, Chemist and Mineral Water Manufacturer, High Street, East Grinstead.

WANTED, by a medical man in a country town in the North of England, a Dispenser and Bookkeeper; hours 9 A.M. to 8 P.M. Apply, stating salary required and references, to K. S., care of Evans, Sons & Co., Hanover Street, Liverpool.

A QUALIFIED Assistant, about 30, outdoors, no Sunday duty, for a Mixed country business, with heavy goods, oils, paints, &c.; salary £80 and a commission; an energetic one who can prescribe, extract, &c., may find this a permanency. Address, J. Morton, Ramsbottom.

TRAVELLER wanted to call upon Surgeons, Confectioners, Mineral Water Manufacturers, &c., in Swansea and South-West and Mid-Wales. Apply, with full particulars of previous experience, and enclosing carte, to H. A. C., care of Lynch & Co., Aldersgate Street, London.

JESSE WILLIAMS & CO., Chemists, 7 Park Hill Buildings, Queen Street, Cardiff, require immediately two smart Junior Assistants for the retail counter who can be well recommended by their last employers. Please state age, height, salary (outdoors), and when disengaged.

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PARIS.—Immediately, an active and experienced Counterman (seeking a permanency and speaking French fluently) for a high-class Retail establishment; must be tall and of good address; liberal salary. Apply by letter, with photo (to be returned), to A. B. C., care of Messrs. Maw & Son, Aldersgate Street, London.

MANAGER (permanent) wanted for a company; young man, fully qualified; market town, south of England; unmarried; indoors; must be reliable, active, energetic and obliging; good Extractor and Prescriber. State age, experience, and salary required, with photo, to "M." Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

TRAVELLER.—A well-educated man, about 28, of good appearance and address, to call chiefly on professional and scientific men, to introduce drugs and preparations, surgical and scientific instruments; must have had a good and varied commercial and scientific training and experience; to save time and useless correspondence, applicants will please furnish the following details: Age, married or single, where and with whom apprenticed, if attended any college or school of science or pharmacy, full details of name of employer, town, and duration of each situation in which experience has been gained, salary required, references, whether seeking a permanent engagement; replies which do not furnish particulars as above will be disregarded. Address, X. Y., care of Messrs. Horner & Sons, Mitre Square, Abingdon, London, E.C.

WANTED by Wholesale Druggists, man at Dry counter; must have had at least five or six years' experience in good house. Apply, by letter, to "X. Y. Z., Office of THE CHEMIST AND DRUGGIST, 42 Cannon Street, E.C.

OUTDOOR Junior Assistant for Retail counter in high-class trade; must be an active Counterman, of good appearance and address. Apply, stating age, height, salary required, and enclose photo, S. Wand, Chemist, Leicester.

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JUNIOR, about the middle of July; Indoors; hours light, and no Sunday duty; one who has been accustomed to a good-class country trade. Apply, stating age and full particulars, enclosing photo, to Mellor, Chemist, St. Neots, Hunts.

WANTED immediately, active Assistant for brisk Retail, Prescribing, and Dental business; qualified preferred; able to extract and prescribe. Address, with full particulars and photo if convenient, "Veritas," care of Messrs. Hirst, Brooke & Hirst, Leeds.

IMMEDIATELY.—Junior wanted in a Retail Dispensing business; no heavy work; hours light; must be neat and accurate. State age, height, experience, reference salary required (outdoors), and enclose photo, to be returned, F. H. N., 33 and 34 Mortimer Street, Herne Bay.

STEADY reliable Junior, outdoors, about August 1st, for summer season, in first-class Dispensing business; continuance after that time might be arranged, by young man wanting part time for study or lectures. State salary required, and usual particulars, to Vint, Chemist, Hastings.

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GAMBLE & CO., 4 Edwardes Terrace, Kensington Road W., require a qualified Assistant (indoors) on or before September 1; a gentleman well up in Dispensing and Counter work, also desiring a permanency, will be liberally treated; present Assistant nearly 8 years with them. Apply by letter, giving all particulars.

OUTDOOR Assistant wanted for Country business; qualified preferred; hours short, and no Sunday duty; please state age, height, and salary required (outdoors), together with references from last employer; also when disengaged; letters not answered in three days may be considered declined. E. G. Carrington, Chemist, Bakewell.

CHEMIST'S Assistant wanted for Buenos Ayres; must speak a little French or preferably Spanish; age not to exceed 25; good address and appearance, with first-class experience; 2 or 3 years' agreement; salary £8 per month, with board and lodging; second class passage paid out. Address, with full particulars, E. E. C., Street & Co., 30 Cornhill.

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WANTED, Manager, about 30 (qualified); must be reliable, energetic, obliging, and a good Prescriber; good references indispensable. Also Junior Assistant, about 18; must be active and energetic, and of agreeable manners. Apply, stating age, height, and salary required, with photo, to J. & J., care of Messrs. Goodall, Backhouse & Co., White Horse Street, Leeds.

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IMPORTANT TRADE-MARK JUDGMENT

HOUSE OF LORDS APPEAL, June 19, 1890.

Present: The Lord Chancellor, and Lords Watson, Herschell, Macnaghten, and Morris.

ENO V. DUNN.

This was an appeal from a judgment of the Court of Appeal reversing an order of Mr. Justice Kay, which was in favour of DUNN, the Respondent. The Appellant, ENO, was the registered owner of the trade mark "ENO'S FRUIT SALT," which he first brought out in 1873. The Respondent described his preparation as "Dunn's Fruit Salt Baking Powder." In accordance with the decision of the majority of their Lordships, the judgment of the Court of Appeal was reversed with costs (in both courts), and the decision of Mr. Justice Kay restored.

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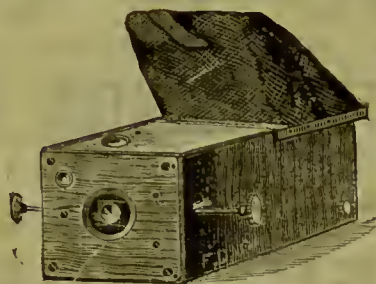
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Fig. 13.

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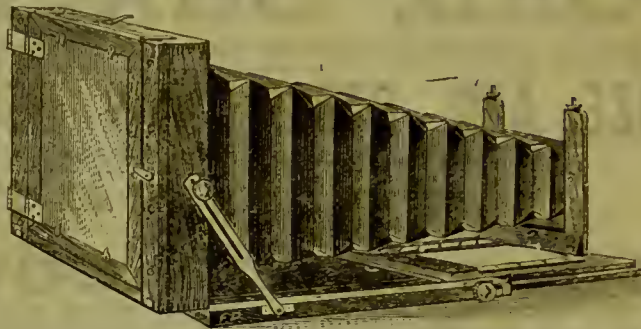


Fig. 14.

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Shelving.—Range of about 30 feet long and 5 ft. 6 in. high, mahogany, with 4 pieces of silvered plate-glass in mahogany frames, 5 ft. 6 in. by 1 ft. 6 in. each, 2 of these with cupboards behind; also mahogany and silvered plate glass cupboard, 3 ft. by 2 ft.; glass tablet cupboards with writing on top, and 2 glass wall cases; splendid condition; price 15l. the lot, cost more than 100l.; anyone fitting up would be a great bargain. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Drawers, about 30-ft. run with glass labels and glass knobs; would sell part of same. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Counter with plate-glass front, another with mahogany front, dispensing counter fitted with drawers and glass cases on top of same; very cheap. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Counter-case, bent glass, as Maw's A 18; price 5l. 10s., equal to new; also dispensing screens, desks, carboys, specie jars and sundry fittings; great bargains. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Window enclosures.—2 solid mahogany and enamelled glass, one about 12 ft. long, the other 7 ft., complete, with silvered glass at ends, iron trams on top and gas fittings; price 12l. the lot, cost 25l. a few months ago. Philip Josephs, 54 Old Street, Goswell Road, London, E.C.

Second-hand shop-fittings, show-cases, shop-counds, specie jars, carboys, pill-machines, utensils, and every necessary for chemists commencing, or fitting up branch shops, at half the usual prices; state requirements or call. Natali & Co., 184 Aldersgate Street, London, nearly opposite Maw's.

3 ft. 6 in. wall case, 6 ft. 6 in. high, 60s.; dispensing screen with large green plate-glass front, 60s.; plate-glass centre case, 4 ft. 6 in. long, 3 ft. high, 2 ft. 6 in. wide, 5l. 10s.; several upright cases from 2 ft. 6 in. long, 4 ft. high, very cheap; mahogany top counters from 6 ft. long to 14 ft. long; 7 ft. 3 in. wall case, Maw's A 86, mahogany cupboards under; nests counter drawers, outside lamps, pill machines, dispensing scales, mortars; also a large quantity of new fittings; also entire fittings of a shop for 50l.; list on application. Elkanah Natali, 207 Old Street, near Great Eastern Street.

Counter-cases, bent plate glass, as Maw's A 18, 6 ft. long, 5l.; 6 ft. 10 in. long; 8 ft. long; 5 ft. ditto ditto plate-glass cases as Maw's A 16, 4 ft. long 75s.; 2 ft. 5 in., 45s.; 4 ft. 8 in., 86s.; 4 ft. 1 in. long, 70s.; 4 ft. 6 in., 80s.; 2 ft. 45s., several others at similar low prices; flat plate-glass counter-case, with upright case adjoining at back; 4 ft. 8 in. long, 85s., a bargain, with two shelves at back for dispensing bottles; desks and cases from 45s. each, plate glass; toothbrush-cases, bent plate-glass front, at 30s. each; flat counter-cases, as fig. A 2, 5 ft. long and 2 ft. wide, 50s.; 4 ft. 6 in. long and 2 ft. 3 in. wide, 50s.; flat plate-glass case, with sloping and flat shelf at back and money-table in centre, 9 ft. long, 6l. 10s.; 3 bent plate counter-cases, each 3 ft. long, air-tight, 50s. each. Elkanah Natali, 207 Old Street, Shoreditch end, London.

Good second-hand 16-ft. mahogany counter cheap; several others from 4 ft. to 16 ft.; plate-glass-fronted counters any length, at low prices; dispensing-screen, as A 54, 4 ft. and 5 ft. long, as A 55, 6 ft., 7 ft. 6 in., 8 ft. cheap; dispensing-screen, with plate-glass centres and cases at each side, with tablet on top, "Dispensing Department," from 5 ft. to 8 ft.; wall-cases, 4 ft. long, 6 ft. long, and 8 ft. long, cheap; wall-case, as A 88, with plate-glass cupboards under, 9 ft. high, with mahogany cupboard under, 4l. 15s.; pink ointment-jars, specie-jars, pill-machines, dispensing-scales, mortars, &c.; all at low prices, at Elkanah Natali's, 207 Old Street, Shoreditch end, near County Court, London, E.C.

Miscellaneous.

100 indigenous plants, mounted and named, 7s. 6d., free. Tully, Chemist, Hastings.

Air bed, 48 x 90, first-rate condition, bargain; approval. Padwick, Redhill.

40 pint bottles French extracts, concentrated; Jockey Club, Opoponax, &c.; 7s. pint, sample 3d. 126/24.

Woolf's liquid paint, four 6-gal. tins, black, red, med. green, and med. stone; what offers? Kendall, Blyth.

Powerful galvanic battery with indicator, in good condition, cost 20l., lowest price 8l.; would exchange for Safety or tricycle. Realle, 42 High Street, Crewe.

Surplus stock: 7 lbs. pulv. ipecac., 7s. lb.; 5 lbs. pulv. rhei elect., 3s. 6d. lb.; 4 lbs. pulv. ipecac. co., 3s. 6d. lb.; 10 lbs. pulv. oubeh. gen. 4s. 6d. lb. Cook, Chemist, Middlesborough.

Job lots of mineral-water and other bottles; 100 gross split lemons; 50 gross 10-oz. square dark coffee extracts; 30 gross cherry brandy quarts; what offers to clear? 85/61.

To Chemists.—The handsomest specie-jar in Lancashire, equal to new; two 8-gallon carboys and 4 smaller specie-jars, very cheap; 20 dozen Liebig's perfect health-lozenges, 1s. bottles, price 5s. 6d. dozen. Hughes, Paddington, Liverpool.

WANTED.

Quantity tooth-forceps, as used by Sequah's men. 125/25.

Lalor's "Origin of Life." J. E. Bury, Mr. Davis, Chemist, Newbury.

Himrod's, 4s. 6d.; Brown's chlorodyne, and any saleable patents. 114/26.

"British Flora," Hooker's or Bentham's, also illustrations; Bentley's "Botany; state price and date. D., 38 Northumberland Place, Bayswater.

Address Wanted.

Correct address of Charles Fortescue & Co., Plymouth, proprietors of the "Devonshire Cream Ointment." 47/80.

Will any chemist please oblige with present address of Mr. Hertz, who travels with waterproof goods and delivers same? Parker, Chemist, Scarborough.

JOHNSON & JOHNSON

NEW YORK and LONDON,
MANUFACTURING CHEMISTS,
MANUFACTURERS OF ALL VARIETIES OF

MEDICINAL
AND
SURGICAL **PLASTERS** IN RUBBER
COMBINATION

(PERFORATED AND PLAIN), AND ISINGLASS AND MUSTARD PLASTERS.

ALSO MOIST ANTISEPTIC DRESSINGS & ABSORBENTS.

MUSTARD PLASTERS.

We are now preparing Mustard Plasters after an entirely New Process.

Mustard Plasters have always given some trouble to both Physician and Pharmacist, by reason of decomposition from age, thus becoming inert. After years of careful manipulation we have been able to overcome this difficulty, and the Mustard Plasters prepared by us are guaranteed in every way.

ON APPLICATION WE WILL MAIL TO ANY CHEMIST'S ADDRESS A SAMPLE OF OUR

NEW PROCESS MUSTARD PLASTER,

A comparison of which with any other brand will show them to be much superior.

THEY WILL KEEP BETTER.

THEY WILL GIVE BETTER SATISFACTION TO YOUR CUSTOMERS.

THEY ARE STRONGER THAN ANY OTHER MAKE.

IMPROVED BELLADONNA PLASTERS

(WITH BORACIC ACID).

INCREASED ACTION.

We have succeeded in greatly increasing the therapeutic value of Belladonna Plasters.

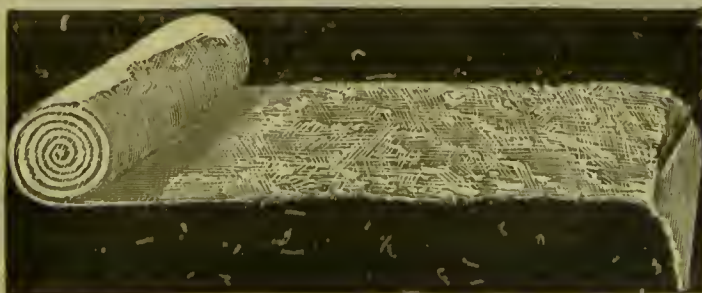
FIRST.—By preparing the mass in a manner calculated to promote a more rapid absorption of the incorporated drug.

SECOND.—By employing a more reliable extract of the drug than is commonly used.

THIRD.—By the addition of Boracic Acid and a mild rubefacient, by which the activity of the cutaneous glands is stimulated, and their power of absorption increased.

Samples to any Physician's or Chemist's address on application.

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Rolled with Tissue Paper between them to prevent felting.



Cotton in this form is as easily applicable as an ordinary cloth bandage.
Its advantages can be seen at a glance.
Supplied in all sized Packets from 1 oz. to 1 pound.

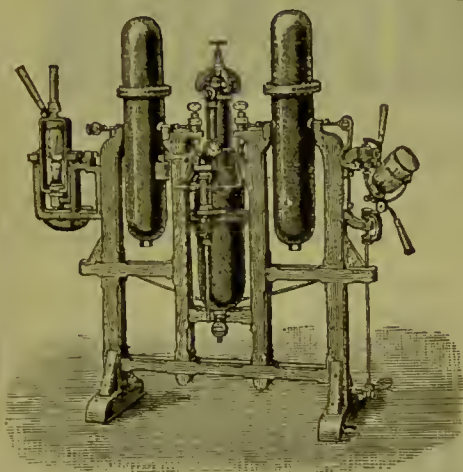
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When ordering through the Wholesale Houses care should be taken to specify the goods of JOHNSON & JOHNSON'S Manufacture.

A. LOZÉ & CO., LD., 281 WEST DERBY ROAD LIVERPOOL.



INDISPENSABLE TO CHEMISTS.
THE ONLY PRACTICAL SODA WATER MACHINE.
Self-working by Chemical Action. No Skilled Labour.
NOT LIABLE TO GET OUT OF ORDER OR NEED REPAIRS.
Produces the Purest Aërated Water made.

Machines, in two sizes, at 25 guineas and 30 guineas. All complete. With the smaller a lad can make easily in ten hours twenty dozen Syphons or 100 dozen Bottles; with the larger, thirty dozen Syphons or 175 dozen bottles.

COUNTY LABORATORY, 30 BROWNLOW STREET, LIVERPOOL, October, 1889.

I have examined during the present year the Machines for making Aërated Waters invented by Mr. Lozé, and I have formed a very high opinion of them. No lead is found in any part which comes in contact with the water, and the process is one which produces absolutely pure Carbonic Gas. Accordingly I find that the effervescing water produced is free from every injurious metal or contamination, and has a better flavour than that produced in the ordinary way.

J. CAMPBELL BROWN, D.Sc.

CHEMICAL LABORATORY, 20 ALBERT GATE, MANCHESTER, 21st August, 1889.

GENTLEMEN,—At your request I have visited the works of Messrs. A. Lozé & Co., of Prescott Street and Tnebrook, Liverpool. I have inspected his patented Apparatus for producing Aërated Waters, and have analysed the Aërated drinks manufactured. The results of analysis quite justified the inferences which were drawn from a knowledge of the materials used. Thus, instead of using ordinary whiting (as the source of carbonic acid gas), which gives off small quantities of offensive gases when acted upon with acid, Mr. Lozé uses one of the pure soluble bicarbonates of either Potash or Soda; the use of this salt enables the apparatus to be much simplified in form, as no gas washer is required, but the carbonic acid gas may be led at once into the liquid in the Saturating Cylinders. The Aërated drinks produced are of very high quality, both as to purity and as to Aëration, and the apparatus possesses the merit of extreme simplicity and efficiency.—Faithfully yours,

C. ESTCOURT, F.I.C., F.L.

Messrs A. Lozé, & Co., LIMITED.

DITTON, 10th April, 1890.

Dear Mr. Lozé,—I am pleased to inform you that I have been able to work the Machine sold to me by you without previous knowledge. With your patent Turnover I can bottle Patent Stoppers at the rate of two dozen per minute. Syphons and Corked Bottles I can fill much quicker than what you advertise the Machine to do.

The Aërated Waters produced have been sampled by a number of gentlemen, and pronounced by them to be of a most excellent quality.—Wishing you every success, I remain, yours truly,

ROBT. J. GOW, F.C.S.

JOHN OWEN, JUNIOR, PACKING CASE MANUFACTORY AND STEAM SAW MILLS.

ESTABLISHED 1840.

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MANUFACTURER OF

Cases of every description for Home use and Exportation.

Wine Laths, Oak and Deal.

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Bottle Crates. Straw Envelopes.

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ALSO MANUFACTURERS OF THE

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EXPORT ORDERS RECEIVE SPECIAL ATTENTION.

WIESBADEN KOCHBRUNNEN SALT

FOR THE EFFECTIVE TREATMENT OF

Disorders of the Organs of Respiration and Digestion,
Catarrh of Larynx and Stomach, the Enlargement of Liver and Spleen,
Abdominal Plethora, &c.

TO BE OBTAINED THROUGH ALL WHOLESALE HOUSES.

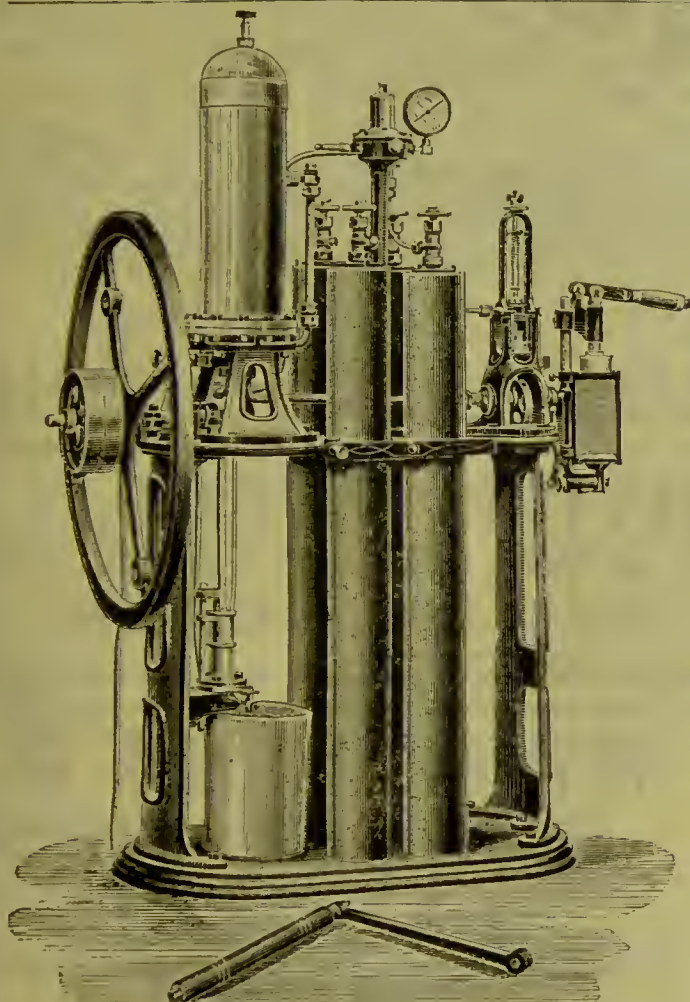
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[2]

W. SCHACHT & CO., 26 FINSBURY PAVEMENT, LONDON, E.C.

SODA-WATER MAKING

With Liquefied (So-called Natural) Carbonic Acid Gas.



The "Compact" Machines are designed where space is an object and for those having a large retail trade, such as Chemists, &c., for filling Bottles or Syphons, and are fitted on the one end with either the "Reliance" Syphon Filler or the "Excelsior" Machine for filling Patent Bottles.

No. 1 Size "Compact" Soda-water Machine complete, as shown, comprises a Niagara Cylinder, mounted, complete with all fittings, Reducing Valve, and a Bottling Machine for Syphon Bottles or for Patent Bottles, the latter fitted with Syphon Pump, the whole mounted on a massive cast-iron frame, fitted with shaft, flywheel, with fast and loose pulleys, for steam or other power, and also handle for hand-power.

By opening one of the iron vessels, and setting the Reducing Valve to the required pressure, a stream of gas is let into the Cylinder; pumping the water into the Cylinder by means of the flywheel may then be commenced, and as soon as it shows in the Water Gauge, bottling may be started, and continued while the water pump is being worked. About 50 dozen bottles per hour can be bottled with ease by hand-power.

Price complete, £55.

No. 2 Size ditto ditto, with a producing capacity of 25 dozen bottles per hour—

Price complete, £30.

LIQUEFIED CARBONIC ACID GAS, in iron vessels containing 28 lbs., which is sufficient to aerate 20 gross of waters, or 3,000 to 4,000 draughts from the Pillar Fountain, as shown below, 10/- each.

Specimens of Testimonials we are receiving from users of the "Compact" Machine.

From A. THOMPSON, Esq., M.P.S.,
The Putney Drug Stores, 98 High St., Putney, S.W.

"I am more than satisfied with the No. 1 'Compact' Machine which answers my utmost requirements. I find with the aid of a youth I can fill six dozen syphons per hour, including syringing. I have nearly trebled my sale this last three weeks."

From E. H. TAYLOR, Esq.,
Middle Abbey Street, Dublin.

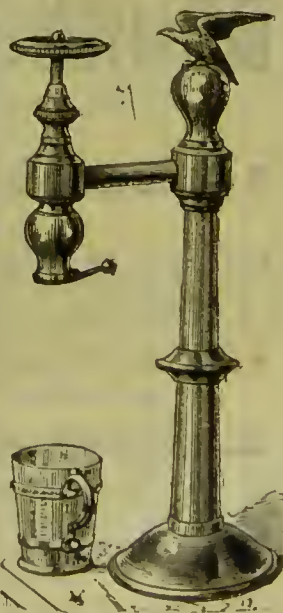
"The No. 2 'Compact' Soda Water Machine came to hand the day previous to the Great Annual Temperance Fête at Ball's Bridge, where it had an engagement to supply 15,000 visitors, or over 200 dozen of waters. I felt nervous, not having a knowledge of the machinery. However, I got it together without a hitch, and after two dozen being bottled, I cannot describe the weight I got from under. I saw that we could turn out double the quantity, as even with temporary fixing, it filled 42 dozen per hour, and with a better trained attendant, will, I am sure, go close on fifty. I wired you this afternoon to know when you can deliver another No. 2 Machine, for a party who came a distance to see it work to-day. Congratulating you on your success."

From Messrs. TURNER, SCHON & CO.,
101 Leadenhall Street, E.C.

"We thought we should have great difficulty in the manufacture of aerated waters to which we were absolute strangers. Now that your No. 1 'Compact' Machine is fitted up and we have had an opportunity of working it, we find it is simplicity itself, and are surprised it should be possible to put such an effective and complete machine into such small compass. We think the machine will prove a great success, and we shall be happy to show it to intending purchasers."

PILLAR FOUNTAIN.

For a Single Draught Arm fixed on Counter, as shown by this drawing, there is nothing more convenient, the great advantage of it is, that a small sharp stream of Aerated Water can be drawn, which, when Syrups are taken, is absolutely necessary, so as to mix up the Syrup with the Water first, and then a large stream, as in the emptying of a bottle of soda water can be drawn; where soda water alone is required, the latter retains its sharpness and pungency, and thus, by the use of this Draught Arm, there is no necessity of drawing the soda water into a bottle first, and then emptying it into a tumbler, thus is avoided the loss of gas, and also the loss of time; but by drawing direct into the drinking glass a more satisfactory result is obtained. It is of very solid construction and thickly plated.



Price £4 7 6

Send for Illustrated Catalogue "C," containing all preliminary information. Forwarded free on application to

BARNETT & FOSTER, "NIAGARA" WORKS, 26t Eagle Wharf Road, LONDON, N.

FAVARGER'S SYPHONSARE THE
BEST IN THE MARKET.**HEADS PURE TIN,
AND
GUARANTEED FREE
FROM LEAD.****GLASS,
FINEST
ANNEALED.****SYPHONS.****READ**

the following:—

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"We beg to say that we have used your

"Syphons for many years, and are very well

"pleased with them. We have tried other makers

"but always found yours superior. We think your

"Syphons the best of any we have seen.

"We are, yours truly, H. C. BAILDON & SON."

"Bournemouth.

"We cannot, we think, do better than tell you that of the Syphons

"supplied us by you, and used by us during three successive seasons, we have not

"had one out of order—if we except two with broken tubes; and only one burst,

"and that on first time of filling. The Plating is, we consider, of special excellence

"and wears well. We shall not need to look farther whilst you continue to supply us with what

"we consider the best value in the market.—Yours truly, J. M. DOWDEN & CO."

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FAVARGER & CO., 76 TURNMILL STREET, E.C., LONDON**MILLAR'S BRITISH WINES.****ORANGE** (suitable for Quinine), **GINGER, RAISIN, COWSLIP, CHERRY, &c.****A. MILLAR & CO., Thomas Street, DUBLIN.**

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Pages 29—31

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ROYALAPPOINTMENT TO
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THE PUREST IN ENGLAND.

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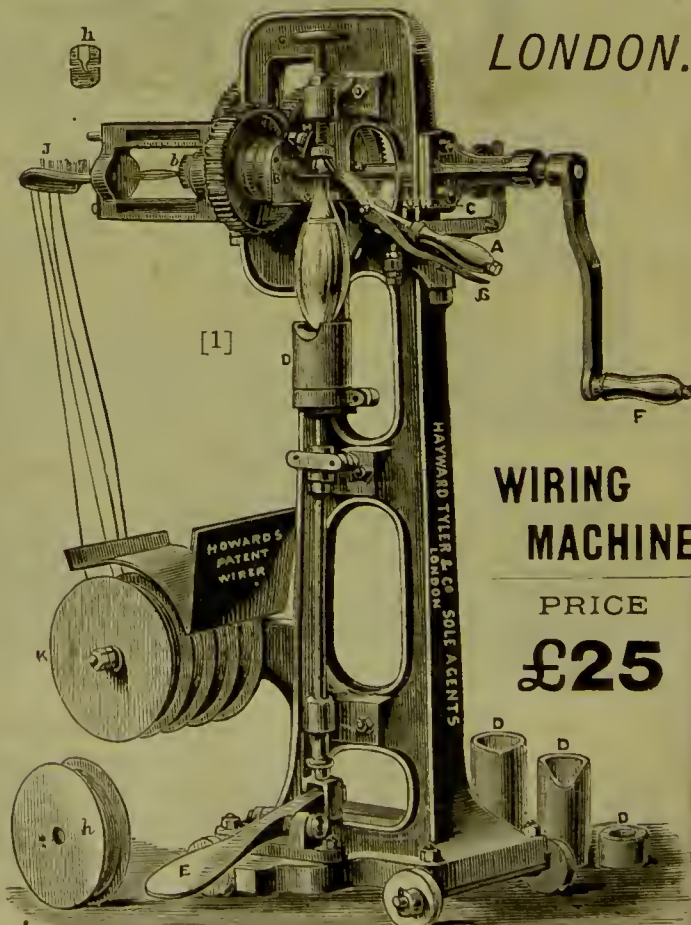
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GREAT REDUCTION IN PRICE.

We have recently been entrusted with a most important Agency for the above-named goods. Our Principals are the best known firm in Paris, and the Syphons are undoubtedly the cheapest and strongest in the market. The tops are made of pure English Tin, guaranteed free from lead. The Seltzogenes are made on the well-known "Fevre" system, and each one is thoroughly tested before being sent out.



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We have obtained at the above Exhibition

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A feat never accomplished before by any other house supplying requirements for the Aërated Water Trade.

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Besides GOLD & SILVER Medals, these Essences have obtained the HIGHEST TESTIMONIALS from all the Medical Journals & from the Principal Trade Journals in this & other Countries.

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Concentrated Fruit Essences—Soluble

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SELTZER. Pure and Delicious Table Water.

LITHIA of guaranteed strength.

LEMONADE. Pure fruity flavour of ripe Lemons.

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ELEGANT SYPHONS. Best Block Tin or Silver-plated Tops. IDRIS & Co. make their own Syphons, and can therefore guarantee freedom from deleterious metal.

LOWEST PRICES for Water, both in Syphons and Bottles. Write for Price List.

PROMPT DELIVERY by our Vans in London and Suburbs. Customers called on regularly once or twice a week. Country orders despatched same day as received.

IDRIS & CO. now supply a larger number of the London Hospitals, Public Institutions, and Chemists, than any other Manufacturers, which is in itself a sufficient guarantee of the excellence and purity of the Waters supplied by them.

"I have examined the Mineral Waters prepared by IDRIS & CO., and find that in regard to Chemical purity and brilliancy, they are unsurpassable."

JAMES EDMUNDS, M.D., M.R.C.P. Lond., &c.

Medical Officer of Health and Public Analyst to St. James's, London.

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JEWSBURY & BROWN'S (MANCHESTER) SPARKLING TABLE WATERS, UNRIVALLED FOR PURITY AND QUALITY.

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LITHIA WATER.
SIMPLE
AERATED WATER.



LEMONADE.
GINGER ALE.
QUININE TONIC.
GINGER BEER.
HOREHOUND BEER

EXTRACTS FROM ANALYTICAL REPORTS.

"The examination of the Waters which I have made has satisfied me that they have been prepared with the greatest care, and are of excellent quality."

FRANÇOIS JONES, F.R.S.E., F.C.S.

On the whole, I have no hesitation in stating that your Aerated Waters are of the highest standard of purity which is practically attainable."

LOUIS SIEBOLD, F.I.C., F.C.S.

J. & B.'s Syphons are mounted with PURE BLOCK TIN, thus ensuring absolute immunity from dangerous metallic contamination

CARRIAGE PAID AND ON RETURNS.

"The Lemonade is, for flavour and general excellence, superior to any similar compound which I have examined, and contains no acid but Citric Acid."

"I took a sample of the water used in your manufactory, in the preparation of the Aerated Waters, and found it, as was the case with the completed compounds entirely free from lead, copper, or any injurious matter whatever."

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LEMON-RASPBERRY



REGISTERED LABEL

A delicious beverage, non-alcoholic and perfectly pure; guaranteed to be prepared from fresh and specially selected Fruit only.

LEMON-RASPBERRY is unrivalled for use with Mineral Waters.

LEMON-RASPBERRY is bottled in special bottles, and is attractive in appearance and agreeable in flavour.

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One 8d. Tin is equal to 25 eggs. In 1d. Packets; 8d., 1s. 2s. and 5s. Tins.

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Delicious Custards without Eggs. In Boxes, 2d., 8d., and 1s. each.

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Makes the Best Ginger-Beer. Packets, 3d. and 8d.

GOODALL'S BRUNSWICK BLACK.

For Painting Stoves, Grates, Iron, Tin, &c. 8d. and 1s. Bottles

GOODALL'S LAVENDER WATER.

A Rich and Lasting Perfume. Bottles, 1s., 2s., and 5s. each.

GOODALL'S PLATE POWDER,

For Polishing and Cleaning all Metals. Boxes, 8d., 1s. and 2s.

GOODALL'S JELLY SQUARES,

Make a Delicious and Nutritious Jelly. In ½-pint, 1-pint, and Quart boxes, 3d., 6d., and 1s. each.

PROPRIETORS—GOODALL, BACKHOUSE & CO., LEEDS

PATENT MEDICINES AND DRUGGISTS' SUNDRIES.

Monthly Price List of Patent Medicines, Druggists' Sundries, &c., will be sent post free on application to

GOODALL, BACKHOUSE & CO., LEEDS.

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TO THE CHEMISTS & DRUGGISTS OF GREAT BRITAIN.

TELEGRAPHIC ADDRESS:

COLEMAN,

GEORGE'S, NORWICH.

St. George's, Middle St.

NORWICH,

December, 1887.

The Excise Authorities having created a difficulty as to the sale of Medicated Wine containing a certain percentage of alcohol, we obtained in January last, from the Inland Revenue Authorities, permission to sell our Liebig's Extract of Meat and Malt Wine, **WITH QUININE**, without a Wine Licence, and many Chemists not holding a Wine Licence have sold considerable quantities. In order further to meet the requirements of the trade, we have introduced a Liebig's Extract of Meat and Malt Wine, **NON-Alcoholic**, made from the juice of the Grape, Liebig's Extract of Meat, and Extract of Malt. This also can be **SOLD WITHOUT A WINE LICENCE**. Your orders will oblige either direct or through the Wholesale Houses.

Yours obediently,

COLEMAN & CO., LIMITED.

*N.B.—The Wine is sold in Bottles, 2/9 and 4/6 each.
Trade prices on application.*

P.S.—Where the Magistrate's Certificate is not held we are willing to pay the entire cost of a Retail Certificate (the holder of which can sell any kind of Wines) if an assorted order of 6 dozen is sent us of any of our preparations. List on application. Our Liebig's Extract of Meat and Malt Wine **WITHOUT QUININE** commands a very large sale, and is recommended by over one thousand medical men who have sent us testimonials in its favour.

SOLE MANUFACTURERS—

COLEMAN & CO., LIMITED,

ST. GEORGE'S NORWICH,

AND 3 NEW LONDON STREET, LONDON, E.C.

BRAGG'S

Sold in Powder, 2-, 4-, and 6/- bottles; also in
Biscuits, 1/-, 2/-, and 4/- tins (Children like these),
and in Lozenges, 1/1½ tins (portable and convenient).

Undoubtedly the most natu-
ral preventative and curative
agent in all cases of Indiges-
tion, Disorders of the Liver, Fevers, Cholera,

Dysentery, &c.

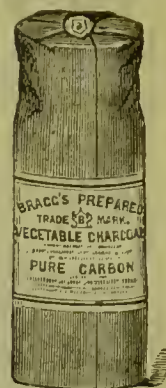
The trade cannot do better than keep these old-
established and safe preparations under the notice
of their customers.

VEGETABLE CHARCOAL.

SOLE MANUFACTURER—

J. L. BRAGG, 14 WIGMORE ST., LONDON.

SHOW CARDS AND COUNTER BILLS ON APPLICATION.



BOVRIL

IN THE "LANCET" OF NOVEMBER 11, 1895,
BARON LIEBIG SAYS:—

"Were it possible to furnish the market at a reasonable price with a preparation of meat, combining in itself the albuminous together with the extractive principles, such a preparation would have to be preferred to the Extractum Carnis, for it would contain all the nutritive constituents of meat." Again—"I have before stated that in preparing the Extract of Meat, the Albuminous principles remain in the residue, they are lost to nutrition, and this is certainly a great disadvantage."

"**BOVRIL**" contains the albumin and fibrine in the most perfect possible form, and to those who know the requirements of the human system and the constituents of food, it will be apparent that this albumen and fibrine is identical with what the body requires for recuperation, and that as a perfect form of concentrated nourishment it must supersede any animal aliment at present known.

"**BOVRIL**" has solved the problem of the great German Chemist.
"**BOVRIL**" is Baron Liebig's ideal realised.

OFFICES:—30 Farringdon Street, LONDON.

"MYRTLE GROVE" TOBACCO

In 1-oz., 2-oz., and 4-oz. Packets, and ¼, ½, 1 lb. Tins only.



TADDY & CO., 45 Minories, LONDON

ESTABLISHED 150 YEARS,

SNUFF, TOBACCO, AND SEGAR MANUFACTURERS.



Write for List of Specialities.

"LA JOYA"

This First-Class Brand of English-Made Cigars

IS MANUFACTURED SOLELY BY

M. & R. PEACOCK,

TOBACCO, CIGAR, SNUFF, AND CIGARETTE MANUFACTURERS

Who will be pleased to send a sample FREE to any address in the
United Kingdom on application.

A box of 25 (as in margin) for 5/-, or a box of 50 for 9/-, on receipt
of Postal Order or Stamps, carriage paid.

The only Manufacturers of the CELEBRATED "ROYAL
CHARTER" TOBACCO.

WHOLESALE PRICE LISTS TO RETAILERS ON APPLICATION.

542 KINGSLAND ROAD, LONDON, N.E. ESTABLISHED
1852.



22

SALE LAST YEAR OVER 100,000 BOTTLES.

POTTER'S



Registered Trade Mark

The Best in the Market.

HERB BEER

Makes a Splendid Botanic Beer.

FLAVOUR
IMPROVED

EXTRACT

WILL KEEP GOOD IN ANY CLIMATE.

3/6 per Dozen. **39/-** per Gross.

Special Quotations for Bulk. Show Cards and Counter Bills with all Orders.

POTTER & CLARKE,

Wholesale and Export Botanic Druggists,

5, 6, & 7 RAVEN ROW, ARTILLERY LANE, LONDON, E.

TRADE MARK.

IMPORTANT NOTICE.

The following paragraph by Professor Dr. FURBRINGER, Head Physician of the Staedtisches Allgemeinen Krankenhaus im Friedrichshain, Berlin, appears in the printed report from the Directorate of the said Hospital:—

"Denaeyer's Peptone has at last been adopted as the new means of nutrition, after trials, which were made on a large scale with a quantity presented to this hospital, had proved the undeniable advantages of this Peptone over all other peptone preparations in use. Among these advantages, special mention should be made of the pleasant flavour—enjoyed by nearly all patients—and of its form, which is a beautiful clear, amber-yellow sterilised liquid requiring no preparation before being used."

DENAAYER'S

LIQUID STERILISED PEPTONE OF MEAT.

Highly sterilised and concentrated, the only rational one, free from microbes, acknowledged the most efficacious means of restoring **STRENGTH, DIGESTION, and APPETITE.**

It suits the most fastidious stomach, and is pleasant to the taste.

LIQUID STERILISED PEPTONATE OF IRON.

The most active and assimilable of all ferruginous preparations. Specially recommended in all cases where the stomach cannot bear iron in the ordinary forms.

OF ALL CHEMISTS AND WHOLESALE DEALERS.

DENAAYER'S PEPTONIDS & EXTRACT of MEAT CO., Lim.

118 BISHOPSGATE STREET WITHIN, LONDON, E.C.

20 RUE VANDERLINDEN, BRUSSELS.

General Agents for Scotland:—

Messrs. DUNCAN, FLOCKHART & CO., Edinburgh.

THE OLD APOTHECARIES COMPANY, Limited, Glasgow.

CONCENTRATED

PEPTONISED COCOA & MILK

AND CONCENTRATED

PEPTONISED MILK

(PATENT).

These two preparations are made with pure rich PRE-DIGESTED Country Milk, and, by mere dilution with hot water, afford a delicious restorative beverage the assimilation of which requires no digestive effort.

SAVORY & MOORE

LONDON.

Tins 1s. 6d. and 2s. 6d. Obtainable Everywhere.

CAFFYN'S LIQUOR CARNIS

MEAT JUICE OBTAINED



BY A COLD PROCESS.

"Unrivalled as a Food and Tonic for Infants and Invalids on account of its Life-sustaining and Flesh-forming properties."

Is Manufactured at our Works in Kent from some of the finest Cattle England produces.

Every Bullock we kill is first carefully examined, and the animal found to be free from tuberculosis and all other diseases.

We buy none but British-fed Cattle, and use only the Best Cuts for making our Liquor Carnis. The inferior parts of the Beast, together with the Fat, Sinew, &c., are sold for other purposes.



TWO SHILLING BOTTLE.

A most Nourishing Fluid, consisting of the Uncooked Juice of Meat, or Muscle Plasma, permanently Preserved by the addition of a definite quantity of a Carbohydrate, which at the same time materially increases its Nutritive value and renders it a Perfect Food for Infants and Invalids.

Pharmacists willing to distribute specimen bottles and literature to medical men will oblige by intimating the same to us and sending List of Medicos.

Supplied by all Wholesale Houses
at 20/- and 34/- per dozen.

THE LIQUOR CARNIS COMPANY, LD.

General Offices—50 HOLBORN VIADUCT, LONDON. Works and Factory—DEPTFORD, KENT.

Clarke's Newly Designed "Pyramid" Nursery Lamp Food Warmer, with New Registered Pannikin



N.B.—NO ALTERATION IN THE PRICE OF THE OLD PATTERN "PYRAMID" FOOD WARMER.

CLARKE'S IMPROVED PANNIKINS (REGISTERED) FOR USE WITH CLARKE'S "PYRAMID" NURSERY LAMP.

By this invention any liquid food can be poured out, or drunk, without seum or grease passing through the spout, and prevents spilling when poured into a Feeding Bottle, so objectionable with all other Pannikins.

These Pannikins will fit all the old "Pyramid" Nursery Lamps, and can be purchased separately.

WHOLESALE PRICES { No. 1 — 30/ per dozen. } Cash discount, 5 per cent.
LAMPS COMPLETE { " 2 — 33/ " }
 { " 3 — 36/ " }

N.B.—Extras—Porcelain Pannikins per dozen, No. 1 — 8/ — Lids — 2/
 " 2 — 8/ — " — 2/
 " 3 — 9/ — " — 3/
Tin Pannikins, No. 1, 8/ — No. 2, 10/ — No. 3, 12/

Clear Glasses 4/ — Roughed, 6/ — Opaline, 6/ — Coloured, 8/ — Ruby, 8/

N.B.—Ask for CLARKE'S PANNIKIN, and see that his name and the registered number

(Registered 91,241) is on the Pannikin, and trade mark "PYRAMID."

Clarke's Patent "PYRAMID" NIGHT LIGHTS are the only Lights suitable for these Lamps.

Sold Retail by all respectable dealers, and Wholesale by CLARKE'S "PYRAMID" AND "FAIRY" LIGHT COMPANY, LIMITED, CRICKLEWOOD, LONDON, N.W.
London Show Room—31 ELY PLACE, HOLBORN CIRCUS, E.C.

CLARKE'S ADJUSTABLE BED-TRAY (COUSINS' PATENT)

FOR INFANTS AND INVALIDS,

For use with CLARKE'S "PYRAMID" NURSERY LAMP FOOD WARMER, with his NEW REGISTERED PANNIKIN.

This is an invaluable Invention, and useful appliance at the bedside, suitable for Invalids, and particularly for Parents whose Infants require Feeding during the night. It obviates the necessity of getting out of bed, as everything required for use can be put on the Tray. The Tray is adapted for use in connection with Clarke's "Pyramid" Food Warmer, and when not required can be turned to the wall in such a manner as to Shade the Person in Bed from the Rays of the Light.

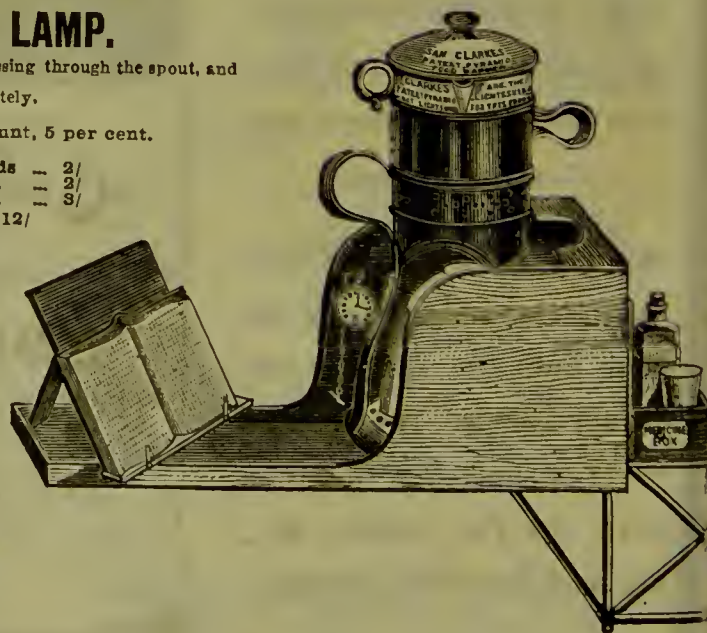
Invalids will find it a Great Comfort, for any book, plate, basin, &c., can be placed thereon ready for use, and obtained without altering the position in bed. By means of a Slide, the Tray can be pulled forward to the position or length required. It is Highly Recommended by the Medical Profession, and can be obtained from most dealers in Clarke's "Pyramid" and "Fairy" Lamps.

Tray, 15/, with Book Rest & Medicine Box, 21/, less 33½ per cent.

Food Warmer, see above.

If with Brass Bracket, 4s. extra. Adjustable Brass Support for book rest, 5s. extra.

DIRECTIONS FOR FIXING.—Place the Clips round the bed-post, insert the Thumb-screw in the square hole at the end of same, and screw as tightly as possible. The Clips being of spring steel, they will fit any size post. A little cloth or washleather should be placed round the bed-post to prevent scratching the post.



CLARKE'S "Pyramid" and "Fairy" Light Co., Limited, CRICKLEWOOD, LONDON, N.W.

SHOW ROOMS—31 ELY PLACE, HOLBORN CIRCUS.

COMPARE, AND THEN DECIDE.

5/6 per Gross.



BOTTLE SHAPE.

PENNY MENTHOL CONES.



BOTTLE SHAPE.

5/6 per Gross.

On $\frac{1}{4}$ -Gross Show Cards, with Elastic. Sample Free.

PETER TYRER, 70 LONG LANE, BOROUGH, LONDON, S.E.



ROBINSON'S LIEBIG'S BEEF WINE.

Composed of Liebig's Extract of Beef, Extract of Malt, and sound Port Wine.

REPORT ON BEEF WINES.

From the results of my Analyses of various Beef Wines I have had occasion to examine, none have equalled as regards strength, purity of ingredients, and (of no less importance) the skilful and judicious manner in which the respective ingredients have been proportioned and combined, the Liebig's Beef Wine manufactured by Mr. B. ROBINSON, of Pendleton, Manchester.

It is in every sense a reliable preparation, embodying in a pleasing and palatable form all the acknowledged medicinal and nutritive properties pertaining to Liebig's Extract of Meat, Extract of Malt, and sound Port Wine.

WILLIAM ELBORNE, F.C.S., F.L.S.

Lecturer on Materia Medica in the Owens College, Manchester (Victoria University).

December 15, 1888.

Introduced 1855.

ROBINSON'S CONCENTRATED WATERS.

Introduced 1855.

One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopoeia, and free from all Chemical impurity. They will keep good any length of time in any climate.



Aqua Anethi, Concent., 4/ lb.	Aqua Cinnam. Ver. Concent., 8/ lb.	Aqua Fœniculi, Concent., 4/ lb.	Aqua Pimentæ, Concent., 4/ lb.
" Anisi " 4/ "	" Cassie " 4/ "	" Ment. Pip. " 4/ "	" Rosæ " 8/8.
" Camphore " 4/ "	" Flor. Anran. " 8/8 "	" Ang. " 6/ "	" Rosæ Virgin. " 10/6.
" Carui " 4/ "	" Flor. Sambac " 8/6 "	" Virid. " 4/ "	

The above are put up in Bottles of 4 lb. or 1 lb. and upwards, each of which has the Inventor's Protection Label over Cork.

From the LANCET, July 15, 1882:—"CONCENTRATED WATERS (Robinson's, Pendleton, Manchester).—Among the samples sent to us we find Aq. Anethi, Anisi, Cinnam. Ver., Rosæ, and some dozen of others. Diluted with forty parts of water they form the ordinary waters of the Pharmacopoeia. They are excellent in quality, and will be very useful, especially in country practice. (1)

Wholesale HARRON & CO., London, and most Provincial Wholesale Druggists. PREPARED BY THE INVENTOR.

B. ROBINSON, MANUFACTURING CHEMIST, DISTILLER, AND BREWER OF BRITISH WINES, MANCHESTER.

"RAMORNIE."

LIEBIG'S Extract of Meat.

As supplied to the Admiralty, War, and India Offices.

1-lb. Jars..... per lb.	8/8	per doz.	81/0	2-oz. Jars..... per lb.	7/8	per doz.	11/6
$\frac{1}{2}$ -lb. Jars.....	7/0		42/0	" " " " " "	8/4	" "	6/3
$\frac{1}{4}$ -lb. Jars.....	7/8		21/8	$\frac{1}{2}$ -oz. Jars.....	8/8	" "	3/3

QUOTATIONS FOR EXTRACT IN "BULK" ON APPLICATION.

Write for Detailed Price List to the Australian Meat Co., 9 and 11 Fenchurch Avenue, E.C.

6 lbs. Carriage Free.

DRUGGISTS' CONFECTIONERY.

ROBERT GIBSON & SONS,

Medicated Lozenge Manufacturers,
CARLTON WORKS, ERSKINE STREET, HULME, MANCHESTER,

1 Glasshouse Yard, Aldersgate St., London, E.C., and 44 Alter Wall, Hamburg.

GIBSON'S SUPERIOR BOILED SUGARS

Have gained a High Reputation everywhere. **FOR EXPORT TRADE.** They are put up in 1-lb., 2-lb., and 5-lb Bottles. Packed in Casks or in 1-doz. Cases as required, and delivered F.O.B. at any Port in England. These Sweets are absolutely pure. We specially recommend

Lime Fruit Tablets, Everton Toffy, Mixed Fruit Drops, Cough Drops, Raspberry Drops, Lemon Tablets.

CACHOU PEARLS,

Musk, Rose, Mint, and other Flavours. In 1-lb. White Glass Bottles. Bottles free.

COMPRESSED CHLORATE OF POTASH PELLETS, SACCHARINE PELLETS,

And PELLETS of every description, put up in 1-lb. White Flint Glass Bottles, with Boxwood Top Corks. Bottles not Charged.

HIGH-CLASS LOZENGES

OF EVERY DESCRIPTION.

Chlorodyne Cough Lozenges, Chlorodyne Jujubes, Peppermint Lozenges,

In every variety of size and strength. Curiously Strong, and Multum in Parvo Mints give the utmost satisfaction
Medicated Lozenges of Pharmacopoeia Strength.

DIGESTIVE TABLETS. VOICE AND THROAT LOZENGES for Singers and Public Speakers.

ORIGINAL SUGAR WORM CAKES

Have an immense sale, both at home and abroad; will keep in any climate, and give entire satisfaction. Put up in Tins containing 3 doz., 6 doz., and 12 doz. cakes.

THROAT HOSPITAL LOZENGES

(As per T. H. Pharmacopoeia)

All Lozenges are sent out in 2-lb. and 4-lb. Bottles (*bottles free*), but allowed for if returned.

PROPRIETARY LOZENGES CAREFULLY PREPARED, STAMPED, AND CUT TO ANY SIZE OR SHAPE.

PRICE LISTS SENT ON APPLICATION.

E. C. RICH COMPANY, LIMITED, Agents, United States,
AND
MR. THOMAS LAKEMAN, 34 Pitt Street, Sydney, for Australia.

Telephone Number, 1852.

Telegraphic Address—CHEMICUS LONDON.

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Where Announcements appear in "THE CHEMIST AND DRUGGIST." Those whose Names do not appear above are published in one of the other issues of this month.

APERT & MINERLS Apollinaris Co. Barnett and Foster Chalmers, W. B. Chassaing & Co. Chesebrough Manufacturing Co. Chiris, Antoinc Chiswick Soap Co. Front Cover Churchill, J. & A. City School of Chemistry Clarke's Pyramid and Fairy Light Co. (Lim.) Clay, Dod & Co. Clements, S. G., & Co. Coleman & Co. (Lim.) Colthurst & Harding Cook, E., & Co. Corsan, J. R. Cummeck, J. Cyclostyle, The, Co. Darton, F., & Co. Davey, Humphrey & Sons Dee Oil Co. (Lim.)	AGENCIES ABROAD Acord, Ed. Anstralian Drug Co. Bolsey Cooking and Co. (Japan) Felson, Grimwade and Co. (Melbourne) Fongera and Co. (New York) Kempthorne, Prosser & Co. N.Z. Lennon, B. G., and Co. Levy, Jules Natal Drug Co. (Limited) Norris, Zahn and Co. Peake, Allen and Co. Prosser, Taylor and Co. Rich, E. C., Co. Roberts (Farie, & Co.) Roke, Tompsett and Co. (Melbourne) Sharland and Co. Boul, W. H., and Co.	BAKING POWDER Goodall, Backhouse & Co. BEEWAX Bowdlear, W. H., and Co. Lüneberger Wax Bleaching Works BICARB. SODA Brunner, Mond and Co., Lim. Howards and Sons May and Baker BISMUTH, PREP. Hearon, Squire and Francis Hewlett and Sons Howards and Sons May and Baker Symes and Co. White, Alfred, and Sons BLOOD MIXTURE Lincoln and Midland Counties Drug Co. BOOKS Churchill, J. and A. Griffin, C., and Co. Hargreaves, Dr. Lewis, H. K. Mutor, Dr. BRUSHES Dulas and Co. Fordnam, W. B., and Sons, Lim. Kent, G. B., and Sons Moseley, David and Sons	BOXES Anstin and Co. (Cardboard) Ayton & Saunders Chalmers, W. B. Owen, J., Jr. Farmer, I. W., & Co. Lim. Robinson and Sons BOTTLES Aire and Calder Bottle Co. (Ld.) Barnett and Foster Barrett, R. H. Bratby and Hinchliffe (Ld.) Broffits (Lim.) Gilbertson, H., and Sons Ilbarn, E. A., and Co. Isaacs and Co. Kinner Bros. Mark, J., and Co. Poths, H., and Co. Sanders, H. G., and Son Shirley, A. W. Thompson, Walters, Hole and Co. (Lim.) Toogood, W. Youldon, E. BUTTER COLR. & Co. Clements, S. G., and Co. Johnson and Jorgensen Oldfield, Pattinson and Co. Hearon, Squire, and Francis Tomlinson & Hayward CAMPOR Fuerst Bros. Howards and Sons Keene and Ashwell (Homoeopathic) May and Baker CASTOR OIL	CAPSULES (METALLIC) Betts and Co. Brooks, Peel and Co. Melin, O. (Machine) Sanders, H. G., and Son CAPSULES Denonah, J. (Medicinal) Duncan, Flookhart and Evans, Sons and Co. Fourrier, Bon and Co. Hooper, B., and Co. CSCRA SACRADA Duncan, Flookhart and Co. Evans, Sons and Co. Ferris and Co. Moss, J., and Co. Squire and Sons CATALOGUE May, Roberts and Co. Sanger and Son CEMENT Kay Bros. (Lim.) CHALK PRECIP. Dunn and Co. Levermore, Ang., and Co. White, A., and Sons CHEST PROTECTRS Solport Bros. Thompson, Walters, Hole and Co. (Limited) Wood, Vincent CHLORIDE OF GOLD
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Morris and Callard
Moss and Co.
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Poulet, Freres
Stern, G. and G. (Pamline)
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White, A., and Sons
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Idris and Co.
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Werner and Pfeiderer

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"Opticure"

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Sankha Tea Co.

Walker and Dalrymple

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cal and Toilet)

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[1890.

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Codein Phosphate ...	1-2 gr.	Morphine and Atropine combinations ...	1-10, 1-3, and 1-2 gr.
Cocaine ...	1-6, 1-4, and 1-2 gr.	Pilocarpin ...	1-10, 1-3, and 1-2 gr.
Colchicin ...	1-100 gr.	Quinine Hydrobromate ...	1-2 gr.
Cornutin ...	1-60 gr.	Sclerotic Acid ...	1-2 and 1 gr.
Curare ...	1-12 gr.	Sparteine Sulphate ...	1-500 gr.
Digitain ...	1-100 gr.	Strophanthin ...	1-500 gr.
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which had been round the world in s.s. *Ceylon*." Mr. H. M.

Stanley, in his work, 'The Congo,' vol. ii. pages 225 and 327; also in his latest work, 'In Darkest Africa,' vol. i. chap. i, refers to their value.

Reduced Price of Saccharin Tabloids.—Our large output of Saccharin Tabloids has enabled us to supply them at an exceedingly low margin of profit, the prices now being: 100 in vinaigrette bottle, 7s. 6d. per doz., and 200 in vinaigrette bottle 14s. per doz.

It will be seen that Saccharin is thus placed within the reach of all classes, and almost approaches the cost of sugar. The boggy stories invented by interested parties in the syndicate of French sugar-refiners, with a view to damaging the reputation of saccharin, are now completely exploded, and this drug is at the present time freely prescribed by all the most eminent physicians, as an entirely harmless and agreeable substitute for sugar, and as being of special service in cases of diabetes and liver complaints. Recent analyses made under the directions of the Board of Health at Nottingham have shown that, whilst some so-called saccharin tablets, pellets, etc., contain large quantities of sugar of milk, the Tabloids supplied by us contain the exact quantity of saccharin and the smallest quantity of bicarbonate of soda of any in the market, viz., $\frac{1}{4}$ gr., which is necessary to render the saccharin soluble.

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Ammon. Chloride with Borax.	Potash Bicarb., 5 gr.
Anti-Constipation	Potash Chlorate, 5 gr.
Antifebrin, 2 gr.	Potash Chlorate with Borax.
Antimony Tartrate, 1/50 gr.	Potash Nit. (Sal Prunella), 5 gr.
Antipyrin, 5 gr.	Potash Permanganate, 1 and 2 gr.
Apomorphine Mur., 1/50 gr.	Potassium Bromide, 5 and 10 gr.
Arsenious Acid, 1/100 and 1/50 gr.	Potassium Iodide, 5 gr.
Atropin Sulph., 1/100 gr.	Quinine, 1/10, 1/2, 1, 2, 3, and 5 gr.
Belladonna Tinct., 1 min.	Quinine Sulphate, 1 gr.
Bismuth Sub-nit., 5 and 10 gr.	Iron Hypophosphite, 2 gr.
Blue Pill, 3 gr.	Acid Arsenious.
Borax, 5 gr.	Strychnine Sulphate, aa 1/50 gr.
Caffein Citrat., 1 gr.	Saccharin, 1/100 gr.
Calomel Sulphide, 1/10 gr.	Rhubarb, 3 gr.
Calomel, 1/10 and 1 gr.	Rhubarb Comp. (Pil.), 3 gr.
Capsicum Tinct., 1 min.	Rhubarb Comp. Pulv. (Gregory Powder), 5 gr.
Cascara Sagrada, Dry Ext., 2 gr.	Rhubarb and Soda, 5 gr.
Cascara Sagrada Ext. (Dry), 1 gr.	Saccharin, 1 gr.
Euonymin, 1/2 gr.	Salicin, 5 gr.
Nux Vomica Ext. 1/16 gr.	Salol, 5 gr.
Cathartic Comp., U.S.P.	Santonin, 1/2 gr.
Charcoal, 5 gr.	Soda Bicarbonate, 5 gr.
Chloral Hydrate, 5 and 10 gr.	Soda-Mint (Soda, Ammon. Carb. & Mint)
Cocaine, Potash, and Borax (Voice)	Soda Salicylate, 3 and 5 gr.
Cocaine Aromat. cum Opio Pulv., 5 gr.	Strophanthin Tinct., 2 min.
Digitalis Tinct., 1 min.	Sulphonal, 5 gr.
Digitalin, 1/100 gr.	Sulphur Comp. (Dr. Garrod's Formula)
Dover Powder, 1/4 and 5 gr.	Tannin, 24 gr.
Euonymin Tinct., 1/8 gr.	Test Tabloids (Fehling's).
Ferrum Redactum [13 gr.	Thirst.
Hydrarg. cum Creta (Grey Powder),	Tinct. Camph. Co. (Paregoric), 2 min.
Hydrarg. Iod. Rub., 1/20 gr.	Iron Pyrophosph., 2 gr.
Hydrarg. Iod. Vir., 1/8 gr.	Quinine Sulph., 1 gr.
Hydrarg. Perchlor., 1/100 gr.	Strychnine Sulph., 1/100 gr.
Hydrarg. Subcutan. (Calomel), 1/10 and 1 gr.	Trinitrine (Nitroglycerine), 1/100 and 1/50.
Ilyoscyamus Tinct. 1 min. [1/2 & 5 gr.	Trinitrine and Amyl Nitrite.
Ipecac. and Opium (Dover Powder)	Trinitrine, 1/100 gr.
Ipecac. Powder, 1/10 and 5 gr.	Nitrite of Amyl, 1/2 gr.
Iron and Quinine Cit., 3 gr.	Capsicum, 1/50 gr.
Laxative Vegetable.	Menthol, 1/50 gr.
Lithia Carbonate, 2 gr.	Urethane, 5 gr.
Manganese Dioxide, 2 gr.	Voice (Potash, Borax, and Cocaine).
Morphine Sulph., 1/20 and 1/8 gr.	Warburg Tincture, 30 minis. in each.
Nitroglycerine.	Zinc Sulphate, 1 gr.
Nux Vomica Tinct., 1 min.	Zinc Sulpho-carbolate, 2 gr.
Opium Tinct. (Landanum), 2 min.	Zymino Tabloids.
Papain, 2 gr.	Zymine Comp. Tabloids.
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See paper by Professor LEECH on "The Comparative Effects of Spiritus Ætheris Nitrosi and Solution of Ethyl Nitrite," *Pharmaceutical Journal*, December 22, 1888.

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CIRCULARS TO THE TRADE.

WE are preparing for July 26 a handsome and attractive number of THE CHEMIST AND DRUGGIST, which will reach 11,000 distinct firms of chemists and druggists in this country and in all parts of the British Empire, as well as in some of the principal foreign lands, where the best markets are found. We invite for this occasion (the last opportunity this year) the co-operation of firms who wish to send circulars to the trade. No one has so perfectly revised a register of good names as ourselves, and we are prepared to stitch up with our journal of the date named approved circulars, uniform in size with our pages, and to circulate these in that permanent and effective style at a price far below the cost of postage alone, not to mention clerical labour.

Firms inclined to avail themselves of the opportunity are requested to apply at once to the Publisher, 42 Cannon Street, for details.

ADVERTISEMENTS of situations vacant and wanted, businesses for disposal, &c., will be received by us up till the first post on Friday morning.

THE PHARMACY ACT (IRELAND) 1875 AMENDMENT BILL.—We understand that Lord Macnaghten is likely to take charge of this Bill in the House of Lords, and that its introduction in that House may be looked for next week.

CHEMIST AND DRUGGIST SERIES.

NEW AND IMPORTANT WORK FOR CHEMISTS.

"A MANUAL of Pharmaceutical Testing for the Man of Business and his Assistants; comprising simple instructions for the testing of the chemicals of the British Pharmacopœia, &c.; with such materials and appliances as are in common use at the dispensing-counter. By Barnard S. Proctor, F.I.C. Published at the Offices of THE CHEMIST AND DRUGGIST, 42 Cannon Street, London, E.C., and at Melbourne and Sydney. 1890."

We quote above the title-page of Mr. Proctor's new manual, which we have published at 2s. 6d., or 2s. 9d. post free. This description of the work concisely explains its objects and scope. It will be found of great and frequent use in all pharmacies, both for practical and for educational purposes. It will be sold through wholesale houses, and we shall be glad to receive orders for it direct. It is uniform in binding and style with our other "Manuals," the "Art of Dispensing" and Alpe's "Handy Book of Medicine Stamp Duty."

The following reviews have been published recently:—

From the *Homeopathic World*, July 1, 1890:—

The full title of this work describes its scope and aim so perfectly that we cannot do better than quote it in full: "A Manual of Pharmaceutical Testing for the Man of Business and his Assistants: Comprising simple instructions for the testing of the chemicals of the British Pharmacopœia, &c., with such materials and appliances as are in common use at the dispensing counter." On the necessity for such a handy book there is no need for us to dwell. Something, of course, must be taken on trust; and when a chemist knows the wholesale houses he deals with, he may trust a good deal; but even in the best cared for establishments mistakes will happen, and subordinates will sometimes be less careful than the heads. It becomes, therefore, an absolute necessity that dispensing chemists and their assistants should have the means of testing the drugs they dispense and checking the honesty and care of those from whom they obtain them. In this small volume Mr. Barnard Proctor has supplied them with the guidance they need. Our only wonder is how they have done without it hitherto. In an introductory chapter Mr. Proctor describes the manipulations and apparatus required; and then in alphabetical order he names the various articles of the Pharmacopœia, their possible impurities, and how to detect them. We will conclude this notice by quoting two specimens. [The notes on Argenti Nitras and on Arsenii Iodidum are then reprinted.]

From the *Hospital Gazette*, July 5, 1890:—

Pharmacists and druggists will derive more benefit from the study of a work of this nature than students and practitioners, though the latter, if they can manage to devote a few leisure hours to conning its pages, cannot fail to learn many useful lessons therefrom. In producing such a work, the first, most probably, of its kind, the author has evidently hit on a new idea. The apparatus and appliances required for the purposes of the analytical examination are first described, and next the methods of detecting the common impurities in the principal pharmaceutical drugs are given. In order to facilitate the study of these drugs an alphabetical arrangement has been adopted. We commend the author for his work, and hope it will become popular with the classes for whom it is intended.



CONDUCTED BY RICHARD J. MOSS, F.C.S., F.I.O.

QUALITATIVE ANALYSIS.

A MIXTURE of three salts of common occurrence will form the subject of the next exercise in qualitative analysis. The mixture is to be submitted to a thorough systematic examination; its constituents are to be detected, and all other substances proved absent.

Students' applications for portions of the mixture will be received up to Wednesday, July 16, and the samples will be forwarded immediately.

Students' reports will be received up to Saturday morning, July 26. Each report should contain a concise account of the work done, and should include a list of the constituents detected, distinguishing any which may be regarded as accidental impurities.

REPORTS.

THE mixture distributed for analysis last month consisted of barium nitrate, strontium carbonate, and calcium phosphate, in equal parts. Its calculated composition was as follows:—

Ba	..	..	..	..	..	17.49
Sr	..	..	..	..	..	19.78
Ca	..	..	..	..	..	12.90
PO ₄	..	..	..	..	..	20.43
NO ₃	..	..	..	..	..	15.84
CO ₃	..	..	..	..	..	13.56
						100.00

The mixture contained as impurities a trace of chlorine, and a slight trace of iron.

There were forty-two reports received, and in twenty-seven of these strontium was not included as one of the constituents, eleven omitted barium, and eight omitted calcium. Of the acid radicles, nine students failed to detect the nitric, and only two the carbonic radicle. Fourteen students reported the detection of magnesium, and aluminium was reported to be present by eleven.

The mixture contained one salt readily soluble in water, and two which were insoluble in that liquid. This fact afforded a convenient means of separating two constituents from the remaining four. The examination of the soluble part separately involved a distinct analysis, but gave very little additional trouble.

The separation of strontium from calcium is a rather tedious operation. A good plan is to convert the compounds under examination into sulphates, and boil the sulphates in a strong solution of ammonium sulphate. This dissolves the calcium compound, and leaves the strontium sulphate unaltered. Unless the proportion of strontium present is small, the intense coloration which it imparts to the Bunsen flame affords a ready means of detection.

PRIZES.

The First Prize for the best analysis has been awarded to A. PERKS, care of Mr. Done, 295 Coventry Road, Birmingham.

The Second Prize has been awarded to J. H. HOSEASON, care of Mr. J. B. Stephenson, 48 Fredrick Street, Edinburgh.

Marks Awarded for Analyses:

A. Perks (1st prize)	..	..	100	H. F.	..	..	..	75
J. H. Hoseason	..	..	98	Cyathus	..	..	..	74
H. L. Stonham	..	..	96	Heterophyllum	..	..	..	72
Dexter	..	..	95	Amyli	..	..	..	70
Moyhitt	..	..	94	W. Davies	..	..	..	70
Saponis	..	..	94	In virtute tenax	..	..	..	65
T. Guttridge	..	..	85	J. Martin	..	..	..	62
Carbo	..	..	80	X. Y. Z.	..	..	..	62
F. R. Dunderidge	..	..	80	E. Turton	..	..	..	60
Cetacenn	..	..	80	A.	..	..	..	60
W. J. C. Coulthard	..	..	80	H. D. Kelf	..	..	..	60
Glucose	..	..	80	W. B. Bell	..	..	..	60
Peter	..	..	78	Danwer	..	..	..	60
W. Porter	..	..	78	Antipyrin	..	..	..	55
Tartar	..	..	77	J. W. Haines	..	..	..	50
Fac pacem	..	..	76	T. M. Cuthbertson	..	..	..	45
A. Howard	..	..	76	Precipitate	..	..	..	40
C. F. S.	..	..	76	G. Ditzler	..	..	..	40
A. Shaw	..	..	6	Apprentice	..	..	..	40
J. T. Bowker	..	..	76	J. L. W.	..	..	..	20
Minore	..	..	75	Sapientia	..	..	..	5

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

•• All communications should include the names and addresses of the writers.

T. GUTTRIDGE.—The precipitate you obtained with ammonium chloride, hydrate and sulphide, consisted mainly of calcium phosphate; the strontium remained in solution as chloride. You do not say what you did with this solution.

CARBO.—The presence of a phosphate which was not soluble in water necessitated a different method of examination for the precipitate, which you supposed to consist of aluminium hydrate, but which in reality consisted mainly of calcium phosphate.

W. J. C. COULTHARD.—See remarks to "Carbo."

GLUCOSE—Your error seems to have been one of manipulation. It would have been a much safer plan to have examined the portion soluble in water separately from the insoluble portion.

PETER.—Your failure to obtain a precipitate when ammonium carbonate was added to the aqueous solution is remarkable, as the precipitate was most unmistakable, even when the solution was highly diluted. The residue which you mistook for sodium consisted of the barium salt, which you had failed to separate. The flame-reaction ought to have made such a mistake impossible.

TARTAR.—The precipitation produced by the group reagent ammonium carbonate was obviously incomplete, probably from the use of an insufficient quantity of the reagent.

A. SHAW.—In this case the ferrous-sulphate test for nitric acid gave a sharp and decisive reaction. The test requires careful manipulation, and the necessary skill can only be acquired by practice.

J. T. BOWKER.—Unless an appreciable residue is left on evaporating the filtrate from the group reagents to dryness and igniting to expel ammoniacal salts, you cannot conclude that more than traces of alkali metals are present.

MINORE.—Your examination of the precipitate produced by adding ammonium chloride and hydrate to the acid solution was incomplete. The phosphoric radicle should have been separated, and the metallic radicles in combination with it should have been identified. Magnesium should have been sought for in the solution from which barium, strontium, and calcium had been separated, not in the original solution. Your preliminary examination shows a great improvement on previous work.

HETEROPHYLLUM.—You omitted to observe that the acid solution of the powder gave a precipitate with ammonia: this was a serious mistake. You observed that the silver nitrate precipitate was soluble in ammonia, and inferred that it was due to a chloride. You ought also to have observed that it was soluble in nitric acid, which is not the case with a chloride.

AMYLI.—The residue that remained when the filtrate from ammonium carbonate was evaporated and salts of ammonia expelled by ignition was so small that the alkali metals could not be regarded as constituents of the mixture. You may always expect to find enough sodium to give the flame-reaction.

T. M. CUTHBERTSON.—We can only account for the black precipitate you obtained with ammonium sulphide by supposing your hydrochloric acid to contain iron.

W. DAVIES.—The quantity of powder sent was intentionally small. With a small supply of material, the work must be done with more consideration and care than are necessary with a large supply. The more the care bestowed upon work, the more instructive it is.

IN VIRTUTE TENAX.—There was not a trace of lead in the mixture; the reactions you attributed to lead were due to barium. The results of your examination in the dry way contradict those of the examination in the wet way.

J. MARTIN.—You evidently require practice in the analysis of mixtures containing alkali earth-metals along with phosphates.

E. TURTON.—The flame coloration observed in the preliminary examination was certainly not yellow. It is remarkable that you should have detected a phosphate in the portion soluble in water and failed to detect it in the acid solution, a result which was clearly impossible.

A.—In the preliminary examination the flame-reaction ought to have suggested the presence of something more than calcium. It was impossible to follow your account of the analysis, as you did not make it sufficiently clear what solution you were operating upon. The systematic analysis in the wet way should be performed with the same solution, not with a number of separate portions. Each group reagent should be added to the filtrate from the former group, or to the solution in which the former group reagent had failed to produce a precipitate.

W. B. BELL.—The quantity of the phosphoric radicle in the solution being only sufficient to combine with the calcium, it was impossible that all the three metals could be precipitated as phosphates. Your failure to obtain a precipitate with ammonium carbonate is quite inexplicable.

DANWER.—Sodium cannot be regarded as a constituent of a mixture unless you succeed in separating a salt of sodium in appreciable quantity.

ANTIPYRIN.—It is a pity you could not find time to write your report in correct English. The sentences "Dry test-tube heated turns colour," "Added aq. dish boiled filtered," are somewhat defective in construction and not altogether free from ambiguity.

J. W. HAINES.—It is probable that you employed too little ammonium carbonate to completely precipitate the alkali earth-metals.

PRECIPITATE.—You ought not to have overlooked the effervescence that took place when the powder was treated with an acid.

G. DITZLER.—French will do quite as well for your report as English. Applications for portions of the mixture of salts should be sent in at the proper time. It is probable that the aluminium you detected was derived from the sodium hydrate you employed as a reagent. A more complete examination for acid radicles is necessary.

APPRENTICE.—We hope you will not be discouraged with the result of your first attempt; the exercise was difficult for a beginner. The presence of a phosphate insoluble in water made it necessary to depart from the ordinary method of analysis.

J. L. W.—You found calcium in your analysis, but omitted it from your list of constituents detected. It is evident that you separated only a small part of the phosphoric acid in the form of ferric phosphate.

SAPIENTIA.—You should hesitate before pronouncing chromium to be a constituent of a white powder. The arsenic tests you describe would give results with slight traces, and possibly your hydrochloric acid was not quite free from arsenic.

INSECT-POWDER.—As the result of an exhaustive inquiry, Hirschsohn, the well-known Russian chemist, has arrived at the conclusion that the principle in insect-powder which kills insects is not a volatile body. It is insoluble in water, but more soluble in alcohol, ether-chloroform, and similar liquids. He says that old insect-powder is not necessarily bad, and that the powder, to keep perfectly, does not require to be stored in closed vessels. All this is the reverse of our old views on the subject.

The fact of Gibson's "Tinted Venus" having been bought by the proprietors of Pears' Soap for 1,750 guineas has been widely reported, but I have not noticed any allusion to the singular circumstance that the chief competitors of Messrs. Pears for the possession of this work of art were the Drapers' Company, who, I presume, intended, out of respect for the recent Zoo agitation, to clothe the lady. On the other hand, Messrs. Pears, I take it, have bought the statue with a view of showing that, whereas their soap removes every particle of dirt from the human body, it will not interfere with the tints that, in the eyes of so many women of the present day, add to that body's beauty. This quality certainly cannot fail to prove an additional attraction to Pears' production, and doubtless we shall soon see a testimonial advertised from some well-known beauty stating that, "Although I wash my face three times a day with Pears' soap, it never has any undesirable effect upon my tints."—*Truth*.



HALF-DAY CLOSING.—Tailors' Drug Company (Limited), of High Holborn, apprise their customers and the public generally, by means of large printed bills and placards exhibited in their windows, that their establishment will be closed one half-day per week—i.e., from 1 P.M.—as shop-assistants' holiday. For this concession, we understand, the assistants are indebted to the managing director, Mr. W. B. Mason.

A DOCTOR AND CHEMIST ARRANGEMENT.—At the Westminster County Court, on the 4th inst., the action of *Burton v. Knowles*, remitted from the Queen's Bench, was heard by Judge Bayley. The plaintiff, Mr. Septimus Collins Burton, a chemist and druggist, of Broad Street, Golden Square, W.C., sought to recover 58*l.*, being made up of 32*l.* money paid for the defendant, Dr. Henry Knowles, 10*l.* 6*s.* 10*d.* costs incurred in regard thereto, 5*l.* 16*s.* 8*d.* half-profits of the defendant's business for a stated time, 2*l.* 10*s.* for drugs supplied, and a few small amounts for money lent, &c. Mr. Ellis appeared for the plaintiff, and Mr. Collinson defended. Mr. Ellis said that in the beginning of 1887 the defendant agreed with the plaintiff that he should board and lodge at his premises, paying 26*s.* per week, having use of a room as a surgery; and that plaintiff should supply all medicines, having as his remuneration one-half of the profits. This arrangement worked satisfactorily, but in December of the same year defendant wished to re-open a dispensary he had had at Folkestone. Mr. Burton agreed to let him have some printing done at his printers, and the defendant had never paid for this, but plaintiff had paid the bill. The plaintiff had also borrowed for defendant 25*l.* for six weeks, paying 7*l.* 10*s.* as interest. The defendant paid the interest, and renewed the bill; but ultimately the holder of the bill issued a writ against the plaintiff, and, as he was not then prepared to pay the whole of the money, execution was issued, and the costs amounted, with the bill, to 42*l.* 6*s.* 10*d.* He obtained the money, and paid the execution out. The defendant's solicitor admitted a great part of the debt, but disputed a few items. He also contended that his client ought not to be responsible for the costs incurred by the plaintiff in respect of the writ, as he ought to have found the money. His Honour, however, said it was the duty of the person accommodated to see that the money was paid. The plaintiff waived his claim in regard to some of the things supplied, and his Honour in the end gave judgment for 55*l.* 10*s.*, with costs.

A DAY AT THE SEASIDE.—Shortly after eight o'clock on the morning of July 5 an odour of dripping macintoshes and soaked umbrellas commenced to pervade Cannon Street Station, whence a special train was announced to start for Margate, the objective of the annual excursion of the Snow Hill and Dartford employes of Messrs. Burroughs, Wellcome & Co. The Dartford contingent came on board at St. John's, and the end of the journey was reached after a four hours' ride past villages where pepsin-yielding creatures wallowed in extract-of-malt coloured mud, while their lanoline-giving sisters spooked spectrally through hillside mists as from a steam atomiser, and tabloid-sized raindrops beat upon the carriage windows. In Margate itself the storm-fiend held sway, and the day was such as would have delighted the hearts of dolphins and mermaids out a bean-casting. Visitors seemed few, but the floating population was largely augmented by the 300 odd employes of B., W. & Co., who rushed from the station to the Hall-by-the-Sea (where dinner was laid), with a rush as of Stanley's followers when emerging from the dripping forests into the Land of Plenty. Between dinner and tea a few of the excursionists braved the danger of the promenade, but the greater and wiser number stopped indoors and enjoyed a dance, for which part of the Hall had been cleared, and the Town Band hurriedly pressed into service. At tea, which commenced at five, Mr. H. S. Wellcome occupied the chair. Mr. Alfred H. Mason proposed the

toast of "The Firm" in a few well-chosen words. Mr. S. M. Burroughs and Mr. Wellecome, in response, said many kind things of their employés, and these friendly and harmonious feelings were echoed by Messrs. Sudlow and Searl as spokesmen for the staff. The toast of the "Press and Visitors," proposed by Mr. Burroughs, and responded to by Messrs. A. C. Meyjes, of THE CHEMIST AND DRUGGIST, and Jukes, of the *Dartford Express*, brought the official part of the proceedings to a close. The weather meanwhile had greatly improved, and until the hour of departure the visitors disported themselves along the shore, their artistic natures being roused to enthusiasm by the glorious effect of a magnificent sunset on the profiles of many dozens of spectacled Margate landladies, looming lodgerless behind the stuffed cats, molluscs, canaries, and other marine monsters that adorn the bow-windows of the ancient port. The S.-E. Railway Company, ever on the pounce for a chance to display their manly independence of time-tables, deposited the visitors at the Cannon Street terminus some time past midnight, giving our representative, on his return journey, ample time to work out the following formula:—A frank and unaffected solicitude for the well-being and enjoyments of employés: the progress and reputation of a modern business house = an intelligent, efficient, good-tempered, and (so far as the female portion are concerned) exceptionally good-looking staff: $x \cdot x = B., W. \& Co. - Q. E. D.$

Provincial Reports.

Items of news, and newspapers containing matters of interest to the trade, sent to the Editor will much oblige.

BIRMINGHAM.

MR. WINFIELD, who for some time has been town traveller for Messrs. P. Harris & Co., Bull Ring, has taken Mr. Reeves's Solihull branch.

LADY PHARMACISTS.—Yet another lady has to be added to the already large number of that sex who have espoused pharmacy in this city—Miss Blanche Thompson is now dispenser at the Woman's Hospital, The Priory. *A propos* of lady dispensers, it is reported that the vacancy of apothecary at the Orthopædic Hospital is to be given to a lady. There are several competing for the post.

CRICKET.—Mr. Chapman has taken the post of secretary to the cricket section of the Chemists' Association for the present season. The section played Southall's last Wednesday week. The Association team, having won the toss, sent in Messrs. Drew and Fallows, who obtained 42 runs, not out, when rain prevented further play. On Wednesday last, Married and Single played at the Langley Ground, Small Herth.

BRIGHTON.

THE EARLY-CLOSING MOVEMENT.—The early-closing movement in Brighton is becoming more popular. Representatives of all trades are declaring in favour of shorter hours of business. On Friday a town's meeting was held, when the Mayor of Brighton presided, and was supported by a large gathering of traders and others, among whom were many prominent pharmacists. General unanimity prevailed, but the day for the half-holiday was discussed. Some were in favour of Wednesday, others of Thursday, while a few supported Saturday. There was ultimately a large majority in favour of Thursday. A local herbalist appeared on the platform, and, to the astonishment of some present, announced that he represented the chemists of the town. This gentleman was the subject of some good-humoured comments at a meeting held later in the day by the chemists. At this meeting Mr. W. D. Savage presided, and Mr. Marshall Leigh reported that he had received a good number of replies to the circulars he issued. From these it appeared that about 75 per cent. of the chemists agreed to the principle. It was decided to recommend the

trade to, as far as practicable, close their shops every evening (except Saturdays) at or before 9 p.m., and on Thursdays at 5. It was further suggested that bills containing the names of those chemists who agree to this movement should be printed and distributed to the trade.

MANCHESTER.

NEW SHOPS.—Strolling in the centre of the city this week I observed two shops which I do not remember to have seen before. The first is that of Mr. W. Walker, 18 Market Place, and it is styled "Exchange Laboratory." Establishment number two is not a new shop, but it has changed hands. It is the place in Exchange Arcade, St. Mary's Gate, which was formerly occupied by Mr. Joseph Pollard, and has now passed into the hands of Mr. Joseph Myers.

THE HALF-HOLIDAY.—This movement is meeting with some degree of support amongst local pharmacists. On the Cheetham Hill side of the town on Wednesday afternoon I noticed that Mr. Wilkinson, the vice-president of our local Pharmaceutical Association, had his shutters up and door padlocked. In the centre of the city, with business at its height, it is not convenient to close on the Wednesday afternoon. For some years the practice in the chief houses in Market Street and round about has been to make arrangements such as will enable as many of the staff as possible to get off on the Saturday afternoon.

A SHOW OF DRUGS.—In connection with the fifty-fourth annual meeting of the Lancashire and Cheshire branch of the British Medical Association, held on Wednesday of last week at the Owens College, three pharmaceutical firms showed an assortment of drugs, instruments, &c. Messrs. James Woolley, Sons & Co. exhibited the latest productions of pharmacy and a choice selection of surgical appliances. Messrs. Mottershead & Co. exhibited specimens of Benger's preparations of the natural digestive ferments, and gave some interesting illustrations of the great activity of the well-known liquor pepticus Benger and liquor pancreaticus Benger. Messrs. Jewsbury & Brown showed a fine collection of mineral waters. Messrs. Armstrong Brothers exhibited optical apparatus, and Messrs. Weiss & Son and Messrs. Wood & Co. were represented by a number of surgical requisites.

NOTTINGHAM.

ALUMINATED BAKING-POWDER.—At a meeting of the Notts County Council last week, the Food and Drugs Committee reported that the county analyst had analysed a sample of baking-powder which contained alum corresponding to 42 per cent. of crystallised alum, and he declared it adulterated. A prosecution has been ordered.

PLYMOUTH.

THE PRESIDENT'S CAMPAIGN.—A meeting was held on Wednesday evening, July 2, at the Mechanics' Institute, to consider a proposal to invite the President of the Pharmaceutical Society and two of the Council to attend a conference of chemists of the three towns and neighbourhood, to endeavour to promote a better understanding of the objects of the Pharmaceutical Society, and to bring about a closer union of the trade for the advancement of mutual interests. It was decided almost unanimously that the invitation should be sent, and a letter was drawn up and signed by most of those present; also that a conference be held in the morning and a dinner given in the evening of the day convenient for the deputation to attend. Chemists in the neighbourhood, and in South Devon and Cornwall, are cordially invited to join in the conference; and those in sympathy with the objects of the meeting would oblige by communicating with the Hon. Sec., Mr. F. W. Hunt, 106 Old Town Street, Plymouth, as early as possible, to enable complete arrangements to be made and success ensured.

SOUTHAMPTON.

BUSINESS CHANGES.—The following alterations have taken place in Southamp'on this year: Mr. Martin has

succeeded Mr. Cullwick, in High Street, and has made a very handsome exterior to the shop-front, by repainting and gilding. Mr. Hodges has taken Mr. Fresson's business at Six Dials. Mr. Walton has taken Mr. Wedge's business in Oxford Street. Mr. E. Calkin (of Salisbury) has taken what was formerly the St. Luke's Drug Stores at St. Denys. The business carried on for many years by Mr. S. Bishop, in Bridge Street, is now altered to S. Bishop & Son, the senior having taken Mr. George H. Bishop into partnership.

IRELAND.

DEATH.—The death occurred last week, at Buxton, of Alderman Peter Byrne, proprietor of the firm of Byrne & McSwiney, chemists, Dublin.

EXTENSIVE FIRE.—The establishment of Messrs. Foster, Green & Co., Belfast, has been damaged by fire to the extent of about 30,000*l*.

THE CHEMICAL-MANURE MANUFACTURERS' ASSOCIATION has undertaken to brand on each bag of genuine superphosphate manure sold by its members the guaranteed minimum of soluble phosphate contained therein.

DUBLIN HOSPITALS' INCOME.—The thirty-second report of the Board of Superintendence of the Dublin Hospitals states that the total income for the year ending March 31, 1890, is 43,192*l*. 10*s*. 10*d*., divided among nine institutions through the city and suburbs.

PERSONAL.—Mr. Laurence Geoghegan, L.A.H., The Medical Hall, Gort, has been appointed sanitary and medical officer to the Gort Union, at a salary of 120*l*. per annum.—Mr. E. M. Hodgson, chemist and druggist, Dublin, is proposed as vice-president of the Irish Commercial Travellers' Association.—Mr. Andrew McFarland, L.A., of London, has been appointed resident apothecary to the Meath Hospital, Dublin.

THE WEEK'S POISONINGS.—Two girls, named Lizzie and Kate Meaney, are in a critical state, in Dublin, from illness said to be caused by eating cheap sweets coloured with poisonous pigment. Samples of the confectionery have been sent to the city chemist for analysis.—John Simkins, a soldier, has been poisoned at Athlone, probably by drinking impure water. He had been drinking some water known to be unfit for use, and had also partaken of some cocoa given to him by a stranger.—At Seapoint, co. Dublin, last week, the wife and four children of Mr. O'Connor, of *United Ireland*, succumbed to poison contracted by eating mussels. Sir Charles Cameron, city chemist, states as the result of his analysis that shell-fish coming from a habitation impregnated with sewage develop in themselves a form of poison allied to strychnine and known as *ptomainus*. His opinion is that such fish ought not to be used as food.

SCOTLAND.

ABERDEEN.

EXCURSION.—The Aberdeen and North of Scotland Society of Chemists and Druggists held their annual picnic on Wednesday, July 2, at Altna-Guissach, Spittal of Muick. The company left Aberdeen by the 7.50 A.M. train for Ballater, in a family saloon carriage. On arrival at Ballater, four large brakes conveyed the party, by special permission, by the Queen's private drive along the north side of the Muick, to Altna-Guissach. At the Falls of Muick a halt was called, and the party dismounted and descended to the bottom of the Falls, which were looking their best after the recent heavy rains. The drive, which extended to nine miles, is one of the finest on Upper Deeside. On arrival at Altna-Guissach, sandwiches and tea were supplied, and at 11.30 the mountaineering party left for Lochnagar under the leadership of Mr. Giles. When about halfway up they encountered what the Englishman is pleased sarcastically to call a Scotch mist, which continued the whole afternoon and evening, much to the inconvenience and discomfort of the party, who were completely drenched. At 4 P.M. the party assembled at Altna-Guissach, and did as much justice as possible (under a drenching rain) to what would otherwise have been a most enjoyable dinner. To the credit of the company, however, be it said, everyone tried to make the

best of a bad day. Tea was served immediately after dinner, and at 5.30 the party beat a retreat, returning *viâ* Ballater to Aberdeen. The whole party numbered about forty, and about twenty reached the highest summit of Lochnagar.

DUNDEE.

CRICKET.—A match between chemists' assistants and chemists' apprentices was played at Stohsmuir on Wednesday, which was won by the youngsters. The assistants scored 47 and the apprentices 60.

HALF-HOLIDAY.—Through the independent action of Messrs. D. McKay, J. Hodge, James Anderson, and Charles Young, who were the only chemists closed in town last week, new life has been infused into the movement, and the whole East-end were unanimous in observing the half-holiday. The chemists in the East and North ends announce that they will close through July and August from 3 P.M. to 7 P.M.

GLASGOW.

WHOLESALE DENTISTRY.—The man in the street, who beholds many things that are hidden from the wise, lately saw in a chemist's window in this city the subjoined curious legend, "Teeth extracted here, one 1*s*., two 1*s*. 6*d*., three 2*s*." Surely a splendid opportunity for the impecunious tooth-achist, who is a pluralist in bad teeth, or paterfamilias who has a family order on hand.

A TOOTHFUL.—*A propos* of dentistry, a story is going the rounds which, if not authentic, is at least *ben trovato*. A Glasgow chemist and dentist, who gives his patients a small glass of brandy to rinse out their mouths after relieving them of offending fangs, had one subject, a working man, who came several times, always on Sundays, to have teeth drawn, and who gulped down his toothful of brandy with immense gusto. Since there was nothing externally wrong with the extracted teeth, our dentist put two and two together, and concluded to stop the brandy. Next time the much-afflicted Sunday visitor put in an appearance he was treated to cold water. That was his last call.

General News.

THE PRELIMINARY EXAMINATION held last week seems to have brought forward an unprecedented number of candidates. There were 400 in London, and 93 in Edinburgh. Liverpool had 17 candidates (and two for the Bell Scholarship); Birmingham 16, including one lady, and Glasgow 21.

THE PRODUCTION OF FLOWERS IN SOUTHERN FRANCE.—The quantity of flowers grown for perfumery purposes in Nice and its neighbourhood during the year 1889 is given as follows:—Orange flowers, 1,800,000 kilos.; roses, 1,200,000; violets, 200,000; jasmine, 180,000; tuberose, 80,000; cassie, 30,000; jonquil, 35,000; *réséda*, 20,000.

BENZOL MANUFACTURE IN BAKU.—The Rothschilds are building works in Baku (Russia) for the manufacture of benzol from naphtha residue. The experiments have shown that there is every probability that this industry will be successful. Schibajew's oil-works in Baku have been manufacturing both benzol and anthracene for many years.

THE MIDWIVES REGISTRATION BILL.—In view of the fact that a Bill similar to the above has been introduced into the House of Commons on three occasions, and that the subject has now been referred to a Select Committee, the *Provincial Medical Journal* for July contains a *résumé* of the laws and regulations relating to midwives abroad; and also a criticism, by Dr. Rentoul, of the above Bill.

THE PLATE LICENCE. In the House of Commons on July 4 Mr. Hayden asked the Chancellor of the Exchequer if it had not always been the practice to discontinue the licence duty for dealing in an article simultaneously with the repeal of the primary duty. Mr. Goschen said this was not the case, and he added, "there are cases in which the licence duty still exists, though the primary duty has ceased." He further stated that the licences for dealing in plate have passed to the County Councils, and that their repeal is a question which affects local finance.

DEATH FROM CARBOLIC ACID.—A middle-aged woman named Maria Cook, wife of a chemical labourer, Upton Rocks, Widnes, died from the effects of carbolic-acid poisoning on Monday last. She had been confined lately, and during the absence of her attendant went to a pantry and drank some carbolic acid which had been left in the house by a previous occupant. The bottle was properly labelled.

THE GERMAN COAL-TAR INDUSTRY.—This industry is such a profitable one that the announcement in the *Chemiker Zeitung* of the projected establishment of several new works for the distillation of coal tar and further treatment of its products occasions no surprise. Upper Silesia is believed to offer a particularly favourable field for the industry. A large company in that district is building a tar-distillery at Friedenshütte, and a syndicate are contemplating the establishment of a large aniline-oil works in the neighbourhood of Kattowitz. The manufacture of aniline dyes is also in contemplation.

EXPLOSION IN A PICRIC-ACID WORKS.—About midday on June 27 a terrific explosion wrecked the greater part of the works of the Chemische Fabrik Rheinau in Germany. The cause of the disaster was a fire, which had originated in the drying-rooms of the picric-acid department, and exploded part of the stock of that material. The picric-acid department itself is completely destroyed, but a store of 60 tons of picric acid kept at another part of the works was saved. No lives were lost, and the acid manufacture will be taken up again as soon as possible in another part of the factory.

CHARGES OF ASSAULT.—At the Torquay Police Court, on July 4, a chemist's assistant named Webber was charged with having indecently assaulted a little girl aged 6 years. The bench considered there was not enough evidence to convict, and the defendant was discharged.—At the Norwich Quarter Sessions, on July 4, Thomas Craske (35), chemist's assistant, Holt, surrendered to his bail charged with indecently assaulting Florence Tillett, aged 12, on May 19. The circumstances have been already reported. Evidence in favour of the prisoner's character was tendered, and a verdict of not guilty was returned, the Recorder observing to the prisoner, "You are a lucky man."

CO-OPERATIVE SUPPLY STORES.—Since the beginning of the current year, says the *Statist*, the following so-called co-operative stores have been publicly announced:—

	£
Kensington Co-operative Stores	100,000
General Service Co-operative Stores	100,000
Army, Navy, and Civil Service Co-operative Society of India ..	100,000
Central Co-operative Stores	130,000
London Co-operative Supply Stores	150,000
South Metropolitan Supply Association	150,000
City and National Stores	60,000
Herbert's Supply Stores	30,000
London and Suburban Co-operative Stores	100,000

Here we have upwards of 900,000£, nearly the whole of it to be applied to the development of stores in the metropolis.

PRESENTS WITH AMERICAN SOAPS.—In our last issue we announced the establishment among the American soap manufacturers of a national soap-makers' association. It is said that the principal reason which led to the establishment of that body is that some four years ago the principal soap manufacturers began the practice of giving various prizes for the return of soap-wrappers to them. The prizes were at first some simple little knickknack, but gradually their value increased, and now, for every fifteen wrappers returned, a set of picture-cards is given away; for 100 wrappers a fine picture, and for every twenty-five boxes of soap ordered by the grocers a costly piano-lamp or an extra box of soap is sent them. About a year ago one of the leading New York soap firms began to offer pianos, and even houses, and building lots. The object of the association is to abolish this practice of presents.

LIQUIDS SENT BY SAMPLE POST.—In the House of Commons, on July 4, Mr. Baird asked the Postmaster-General whether it was the case that the United Kingdom was the only country in the Postal Union in which liquids were not permitted to be sent in glass bottles by sample post; whether the object of the regulation was to secure the safety of the

contents of the mail bags; and whether that safety would be secured by forbidding liquids to be sent by sample post unless the bottles were enclosed in cases sanctioned by the Post Office. Mr. Raikes said in reply:—It is not the case that the United Kingdom is the only country in the Postal Union in which liquids are not permitted to be sent in glass bottles by sample post. The object of the regulation is to secure the safety of the contents of the mail bags. That safety cannot be secured in the way suggested, because it is not possible to make up bottles of liquid in such a manner as to meet the two opposing essentials of absolute safety and perfect facility of examination.

THE BIRKBECK BUILDING SOCIETY.—The thirty-ninth annual meeting of the Birkbeck Building Society was held on July 3, at the offices, 29 & 30 Southampton Buildings, Chancery Lane. The report adopted states that the receipts during the year ended March 31 last reached 11,415,607£., making a total from the commencement of the society of more than one hundred and thirty millions (132,247,107£.). The deposits were 7,937,167£., the subscriptions 209,125£., and the gross profits 263,671£. The surplus funds have been augmented by 376,399£., and now stand at 4,854,340£., of which 1,645,180£. is in consols and other securities guaranteed by the British Government. The balance in the hands of the bankers is 463,693£. The Permanent Guarantee Fund 125,000£. and the temporary reserve 138,671£. (invested in consols) represent more than a quarter of a million (263,671£.) in excess of the liabilities of the society. The subscriptions and deposits withdrawable on demand amount to 5,024,760£. The surplus funds, invested in convertible securities, are sufficient to pay the depositors 111 $\frac{3}{4}$ per cent. The new accounts opened during the year are 9,230, and there are 56,318 shareholders and depositors on the books. Since its establishment the society has returned to its shareholders upwards of one million and a quarter sterling (1,292,000£.) and to its depositors more than one hundred millions (107,762,288£.), the whole having been repaid upon demand without requiring a day's notice.

RUSSIAN v. AMERICAN PETROLEUM.—It is well known that, during recent years, a marked change has occurred in the illuminating-power of the American petroleum distributed in this country; and there have lately been many complaints from traders of the inferior quality of the American petroleum supplied to them. Meanwhile the production of Russian crude petroleum is increasing enormously, and the rate of increase in the shipment of refined petroleum has been still greater. The following official tabular statement, covering a series of years, giving the average, in English tons, daily yield of Russian and American petroleum, shows that, while American is declining, Russian is increasing by leaps and bounds:—

	1882	1883	1884	1885	1886	1887	1888
American	26,579	20,451	21,855	18,379	22,838	19,073	15,795
Russian	4,964	5,924	8,845	11,428	11,800	14,889	18,061

It is now calculated that petroleum could be carried from Batoum to London in a tank-steamer at 15s. a ton, although within the last twelve months 40s. a ton freight has been paid for oil in bulk! The difference between those freights on a 3,000-ton steamer is about 3,750£. on a trip extending over five weeks. At present there is great difficulty in getting tank-steamers—nearly all are under time-charter to speculative middlemen and others, who put on an extravagant and prohibitive profit to those requiring them. The geographical position of Baku presents many difficulties for the English market, as the Trans-Caucasus Railway, the only line, is wholly insufficient to cope with even a small share of the immense oil traffic, and the Volga route is also congested, and closed to navigation nearly six months of the year. But these difficulties will shortly be overcome, as it is now stated that "the owners of the Russian oil-wells will shortly build a pipe-line 497 miles long, to run from the wells at Baku on the Caspian, to the loading-port of Batoum on the Black Sea. The pipes will be cast iron, 8 inches in diameter, and there will be sixty-four intermediate stations. The pipes will be buried at considerable depth to guard against cracking in the intense frost." The commercial importance of Baku and its industrial development will be understood when it is stated that its population has risen in ten years from 15,000 to 80,000.

Pharmaceutical Society of Great Britain

PRELIMINARY EXAMINATION.

THE following were the questions set at the above examination on July 8, 1890:—

LATIN.

(Time allowed—from 11 A.M. to 12.30 P.M.)

I. For all Candidates. Translate into Latin:—

1. Both the boy and the girl were being taught by the master.
2. The king opens the gates of the city with his own hand.
3. This message being received, some were filled with joy, others with fear.
4. Crassus told his slave that he would give him five talents.
5. We must take care not to act unjustly.

II. Translate into English *either* A. (Cæsar) *or* B. (Virgil).

(Candidates must not attempt both Authors.)

A. CAESAR.

1. Nam ne ejus supplicio Divitiarum animum offenderet, vercbatur. Itaque priusquam quicquam conaretur, Divitiarum ad se vocari jubet et, quotidianis interpretibus remotis, per Caium Valerium Proculum, principem Galliarum provinciarum, familiarem suum, cui summam omnium rerum fidem habebat, cum eo colloquitur; simul commonefacit, quae ipso praesente in concilio Gallorum de Dumnorige sint dicta, et ostendit, quae separatim quisque de eo apud se dixerit; petit atque hortatur, ut sine ejus offensione animi vel ipse de eo, causa cognita, statuatur, vel civitatem statuere jubeat.

2. Denique hos esse eosdem, quibusum saepenumero Helvetii congressi, non solum in suis sed etiam in illorum finibus, plerumque superarint, qui tamen pares esse nostro exercitu non potuerint. Si quos adversum proelium et fuga Gallorum commoveret, hos, si quaerere, reperire posse, duntaxat belli defatigatis Gallis, Ariovistum, quum multos menses castris se ac paludibus tenuisset, neque sui potestatem fecisset, desperantes jam de pugna et dispersos subito adortum, magis ratione et consilio, quam virtute, viciat.

Grammatical Questions.—For those only who take Cæsar.

1. Decline through all cases of the plural only—*sum familiarum*; and through all cases of the singular only—*Galliarum provinciarum, omnium rerum* (par. 1).
2. Give the principal parts of all the verbs in paragraph 2.
3. Account for the moods of *offenderet, vocari, dicta sint, jubet*; and explain the construction of *quotidianis interpretibus remotis* (par. 1).
4. Write down the Latin for—*a million, the thirty-seventh, each one of us, three hundred of us, twenty sesterces apiece*.

B. VIRGIL.

1. Est in recessu longo locus: insula portum
Efficit objectu laterum, quibus omnis ab alto
Frangitur inque sinus scindit sese unda reductos.
Hinc atque hinc vastae rupes geminique minantur
In coelum scopuli, quorum sub vertice late
Acquora tuta silent; tum silvis scena coruseis
Desuper, horrentique atrum nemus imminet umbra.
Fronte sub adversa scopulis pendentibus antrum,
Intus aquae dulces, vivoque sedilia saxo,
Nympharum domus: hic fessas non vincula naves
Ulla tenent, unco non alligat ancora morsu.
2. Quum venit, aulacis jam se regina superbis
Anrea composuit sponda, mediisque locavit.
Jam pater Aeneas et jam Trojana juvenus
Conveniunt, stratoque super discumbitur ostro.
Dant famuli manibus lymphas, Cereremque canistris
Expediunt, tonsisque ferunt mantilla villis.

Grammatical Questions.—For those only who take Virgil.

1. Decline through all the cases of the plural only—*aurca sponda, strato ostro*; and through all cases of the singular only—*pater Aeneas, Trojana juvenus* (par. 2).

2. Give the principal parts of all the verbs in paragraph 1.
3. Parse fully—*Dant famuli manibus lymphas* (par. 2).
4. Write down the Latin for—*a million, the thirty-seventh, each one of us, three hundred of us, twenty sesterces apiece*.

ARITHMETIC.

(Time allowed—from 12.30 P.M. to 2 P.M.)

[The working of these questions, as well as the answers, must be written out in full.]

1. A merchant bought 45 gallons at 3s. 2½d. per pint, and 13 gallons for 15l., and then, mixing the whole with 22 quarts of water, sold it at the rate of 3s. 3d. per quart. How much did he gain or lose by the transaction?
2. Find the rent of 6 poles 4 yards 2 feet 36 inches at 6s. 3d. a square yard.
3. Subtract $2\frac{2}{7}$ of $3\frac{2}{3}$ of $99\frac{1}{5}$ from the sum of $9\frac{15}{16}$, $10\frac{1}{8}$, $17\frac{24}{25}$, and $1\frac{1}{4}$.
4. Reduce $3\frac{3}{4}$ d. to the decimal of 10s, and divide the result by 12.5.
5. A person is able to perform a journey of 1422 miles in $4\frac{1}{2}$ days, when they are 10.164 hours long; how many days will he be in travelling 505.6 miles when the days are 8.4 hours long?
6. Divide 80 hectares of land between A., B., and C., so that A. shall have 2 hectares 76 ares more than B., and C. 11 hectares 12 ares more than B.
7. A stationer sold quills at 11s. per thousand, by which he cleared $\frac{3}{8}$ of his purchase money, but raised them to 13s. 6d. per thousand on their growing scarce; what did he clear per cent. by the latter price?

ENGLISH.

(Time allowed—from 3 P.M. to 4.30 P.M.)

1. "The Romans invaded Britain."—Write out this sentence (a) with the predicate extended by a *prepositional phrase*; (b) with the predicate extended by an *adverbial sentence* relating to time.
2. Parse fully:—
"Let me have music dying, and I seek
No more delight."
3. Correct the following sentences, giving your reasons:—
(i.) "There are always there a set of worthy and moderately gifted men."
(ii.) "Nor want nor cold his course delay."
(iii.) "He put a stop to making of saleable drugs."
4. In the following passage supply the necessary capital letters, and put in the stops and inverted commas where necessary:—there was a dr oldfield who was always talking of the duke of marlborough he came into a coffee-house one day and told that his grace had spoken in the house of lords for half an hour did he indeed speak for half an hour said helchier the surgeon yes and what did he say of dr oldfield nothing why then sir he was very ungrateful for dr oldfield could not have spoken for a quarter of an hour without saying something of him.
5. [This must be attempted by every Candidate.] Write a short composition on *one* of the following subjects:—
(i.) Benevolence.
(ii.) The Proper Choice of Books.
(iii.) Free Trade.
(iv.) "'Tis granted, and no plainer truth appears,
Our most important are our earliest years."

CASTOR OIL is said to be sometimes adulterated with rosin oil, but this can be detected, according to Gilbert, by agitating a portion of the oil with an equal bulk of nitric acid, sp. gr. 1.31. Pure oil is turned slightly brown, the acid remaining colourless. Under the same conditions rosin oil becomes almost black, and the acid assumes a yellowish-brown tint.

Pharmaceutical Society of Ireland.

THE monthly meeting of the Council was held on July 2 at 11 Harcourt Street. Present: Mr. Charles Evans, President, in the chair; Messrs. W. F. Wells, Vice-President; G. D. Beggs, P. Merrin, Dr. Burnes, R. Simpson, W. Hayes, E. M. Hodgson, and Professor Tichborne.

COMMUNICATIONS FROM THE MEDICAL COUNCIL.

The REGISTRAR read a letter from the General Medical Council, enclosing a copy of a resolution in reference to increasing the standard of the medical preliminary examination; and a communication from the Pharmacopœia Committee of the General Medical Council, enclosing a list of thirty-seven medicines and compounds which have been selected to form the proposed addendum, and requesting the Council to consider how best to define or prepare same.

Mr. WELLS said that each member of the Council had received a copy of the list from the Medical Council.

The PRESIDENT said that when the original letter came they referred the matter to a committee to consider what they should do. The subject required great attention, and he would like to get the views of the Council upon it.

Mr. WELLS thought the best thing they could do was to ask the licentiates who wished to assist them to communicate with the Council on the subject.

Mr. HAYES suggested that a circular should be addressed to the licentiates.

The suggestion was adopted.

RECOGNISING SCHOOLS OF PHARMACY.

The REGISTRAR read a communication from the South London School of Pharmacy (Limited) requesting that the same might be added to the list of schools recognised by the Society.

The PRESIDENT reminded the Council that they had this matter before them last month, when it was resolved to adjourn it for another month in order to have inquiries made.

Mr. HODGSON: Is this the school we were contemplating allowing being put on our list, and there was some question as to the wisdom of the step?

The PRESIDENT said it was not the same school.

The REGISTRAR read a letter from Mr. J. W. Cussons, in support of the application.

Dr. BURNES said that, with reference to the city school, the licentiate of the Society with whom Professor Tichborne had communicated reported favourably upon it. It might be well to ask Professor Tichborne to have this school inspected also.

Mr. SIMPSON said that so far as this school was concerned there was no better school in England.

Mr. WELLS: There is no doubt we shall receive more applications. A gentleman spoke to me the other day, and asked would we accept a certificate from a Scotch university. Of course, if we want our licentiates to gain knowledge, we must give them a fair opportunity of getting it. It is hard to say they must come to Dublin to take out their certificates. At the same time, we should be careful to have the fullest inquiry made.

It was resolved that Professor Tichborne be requested to write to a licentiate in London, asking him to visit the school and report at the next meeting.

THE PHARMACY BILL.

The REGISTRAR next read a letter from Mr. H. Conyngham, M.P.S.I., with reference to the Pharmacy Act (Ireland) 1875 Amendment Bill; also a letter from Mr. Peter McDonald, M.B., to the effect that most members of his party were against the Bill at present before the House.

The PRESIDENT said they knew already the chief facts as to what had taken place in reference to this subject, but if any member of the Council had anything to propose in reference to it, his suggestion would receive every attention.

Mr. McCORMACK said the suggestions which they had put forward would come on when the Pharmacy Act was taken up by the House of Commons.

Mr. WELLS said they had had a copy of the letter from Mr. Conyngham before them in London.

The Registrar was directed to acknowledge receipt of the letter.

PROSECUTIONS.

The REGISTRAR read a letter from a member with reference to prosecutions.

Marked "Under consideration."

DECEASED MEMBERS.

The names of the late Mr. William Goulding, Dr. Aquilla Smith, and Dr. Charles Henry Lect were ordered to be erased from the register.

A TEMPORARY EXAMINER.

The REGISTRAR read a letter from the Council Office, Dublin Castle, approving of the temporary appointment of Dr. E. M. Cosgrave to conduct the examination to be held on July 7, for the purposes of the Pharmacy (Ireland) Act, 1875, in the room of Dr. H. C. Tweedy, temporarily absent from Ireland.

THE PHARMACY BILL.

The REGISTRAR read a report from the Pharmacy Act Amendment Committee.

The PRESIDENT said that most of them were aware of what had taken place since the meetings were held to consider the Pharmacy Bill. If any of them were not aware of what had taken place, he would be happy to let them know what they had done in trying to get a compromise with the druggists. The result of the meetings they had held was that the first time Mr. Wells and he were appointed to go to London they had conferences with Sir Henry Roscoe, Dr. Fitzgerald, Mr. Sexton, Dr. Kenny, Mr. Webb, Dr. Tanner, Dr. Farquaharson, Mr. McDonald, and Mr. Clancy, M.P.s, and all said they should have a compromise; that in Parliament, if it was a matter that would require much delay or debating, it was certain to be shelved; and that, under the circumstances, if possible, a compromise was better. They then returned to Dublin, and held another meeting, but failed to effect a compromise. A letter was sent to the Druggists' Society asking for another meeting, but they declined. The Council of this Society was most anxious to come within measurable distance of them, but it seemed of no avail. The points they put forward were perpetuation, representation, and title; but the druggists would not give way, and consequently they were obliged to write to the Attorney-General, saying that, as they could not agree as to these points, they (the representatives of the Pharmaceutical Society) considered a conference useless after their second visit. Mr. Boyd wrote the letter they had all seen. On the last occasion of their visit to London, he (the President) went alone; but the druggists beld out more strongly than ever. Their contention was that they should get the title of "chemists" up to the passing of this Act, and, after that, they would be satisfied to be styled "registered druggists." These were all the important points raised, so far as he recollected.

Mr. WELLS said one very important thing took place in reference to the interview Mr. Hayes had with some members of the Druggists' Society in the Lobby of the House, when it was suggested that, if the druggists gave up the right to be represented in the Council, they (the pharmacists) would probably see their way to give in on the question of perpetuation. They were anxious to meet the druggists on this point, in order that they might discuss the other points afterwards; and the druggists agreed to meet them the next morning. Then the druggists flatly refused to meet them, saying that they had not promised to give way on the question of representation. When they came to look into the question of title, it turned out that they wanted the title "chemist and druggist" down to 1889, and afterwards to have the title "druggist," so that they gave no concession whatever. Mr. Hayes would bear him out that both Mr. Evans and himself were willing to have a conference and give way on perpetuation; but the other side would not give way in a single point. They saw Mr. Sexton, M.P., and had a long interview with him. He told them plainly that, unless they came to some agreement amongst themselves, there would be no chance of the Bill passing this session if it were opposed in any shape or form. He advised them to have a

meeting with the other side. Mr. Hayes asked, if they met and were able to get certain things settled between themselves, would he (Mr. Sexton) be willing to take the chair at a meeting and act as arbitrator between them on the remaining points. Mr. Sexton said he would. Mr. Boyd had reported to the druggists that Mr. Sexton had said it was not their association, but Mr. Wells, that had upset the arrangement referring the matter to the hon. gentleman. He (Mr. Wells) thought the Council would see that neither he nor the Pharmaceutical Society had upset the arrangement. Mr. Boyd also made the statement that, "As a matter of fact, Mr. Madden was not consulted on the subject at all." The President said in the letter that Mr. Madden was willing to assist them—all who were on the deputation could tell them that. Mr. Madden said the same as Mr. Sexton—that if they would agree among themselves on some points, he would assist them on any point that might remain. These statements would give them an idea of the difficulties the deputation had to contend against. They could get nothing from the other side, and everything they did was misrepresented. As the matter stood then, the Bill would be before the House that day, and, if the Amendment were got over, it would be carried.

Mr. HAYES said there was no opposition to the Bill, but there were numerous friendly amendments to which there would be no objection.

Mr. WELLS said that Dr. Fitzgerald told them he would propose the amendments. However, they could not do more than they did with them.

The PRESIDENT: We had a great deal of correspondence with the Attorney-General, and we sent him all the papers.

After some further conversation the subject dropped.

NEW MEMBERS.

On the motion of the President, seconded by Dr. Burnes, the following were unanimously elected members of the Society:—

Mr. Alex. Ferguson Allen, L.P.S.I., The Adelaide Hospital, Dublin.	Mr. James Kiloh, L.P.S.I., 108 Patrick Street, Cork.
Mr. Peter John Devlin, L.P.S.I., Main Street, Thurles.	Mr. Francis Joseph Neade, L.P.S.I., 3 Terenure Road, Rathgar.
Mr. Patrick Scanlan Pearse, L.P.S.I., 108 Georges Street, Limerick.	

On the motion of Professor Tichborne, seconded by Dr. Burnes, Mr. William Williams, L.P.S.I., Fermoy, was proposed for membership.

The proceedings then terminated.

NEW COMPANIES.

WILKIE & SOAMES (LIMITED).—Formed to acquire and work the Thames Soap and Candle Works, Greenwich. The capital is 250,000*l.*, divided equally into cumulative preference and ordinary shares of 10*l.* each. The purchase price is 250,000*l.*, the vendors paying all expenses of the formation of the company up to allotment.

THE CARBONIC ACID GAS COMPANY (LIMITED).—Capital 80,000*l.*, in 5*l.* shares. Object, to acquire the lease of a factory and premises at Lea Bridge Road, Hackney, held by Rudolf Storkvis and others, and the plant, stock-in-trade, and other assets of the business of manufacturer of liquid carbonic acid gas, now carried on by Rudolf Storkvis; to manufacture, sell, and deal in any chemical products, and raw and manufactured materials or preparations, and generally to acquire any undertakings likely to advance the business of the company. The first subscribers are:—S. R. Storkvis, jun., Rotterdam; A. N. Polak, Rotterdam; C. G. Rommerholly, Rotterdam; F. M. Bentley, Rumsey Road, Brixton; C. Roth, Bushey Road, Camden Town; H. Steinern, Norwich Road, Clapton; R. Storkvis, Urswich Road, Clapton.

EAU DE COLOGNE.—Mr. A. Domeier has patented the addition of 4 per cent. of glycerine to eau de Cologne. He states that this has the effect of retaining the odour longer. The addition is also claimed for other perfumes.

Trade Notes.

SEQUAH (LIMITED).—Letters of allotment in this company have been posted.

MR. WILLIAM MATHER, of Hulme, Manchester, has commenced the manufacture of trusses, and publishes a price-list for the first time in our pages this week.

MR. JAMES A. RODGERS has severed his connection with the Meyer Bros. Drug Company, of St. Louis, and established the firm of Rodgers, Tedford & Co., wholesale druggists, Knoxville, Tenn.

MESSRS. HAYWARD TYLER & Co. ask us to make it known that their address is now 90 and 92 Upper Whitecross Street. The alteration arises from the renumbering of the houses, and not from any change in the position of their offices and show-rooms, which are still on the spot well known to the trade for so many years.

THE LIQUOR CARNIS COMPANY (LIMITED) have put up sample bottles of their preparation, and offer to send one free and carriage-paid to any registered medical practitioner or chemist who shall apply for it. Their "liquor" is manufactured in Kent, entirely from British-fed bullocks.

The directors of Ashley's Patent Bottle Company (Limited) state that on July 1 Mr. Dan Rylands and Mr. Windmill gave notice that they wholly discontinued the action they brought against the company for alleged infringement of letters patent.

AGREED AT LAST.—Messrs. Hockin, Wilson & Co. are offering an attractive piece of terra-cotta statuary to any



retail chemist who will order 50*s.* worth of their Acme brand of pure menthol. The statue is well executed, and hardly needs explaining. It is, however, satisfactory to find that the two famous statesmen represented by it have been able to find a topic on which they can agree.

MESSRS. AYRTON & SAUNDERS, of 149 Duke Street, Liverpool, have succeeded in producing something new in a price-list of druggists' sundries. The volume which they have just issued contains 220 closely-printed but well-set-out pages, abundantly illustrated, comprising sundries generally, patent medicines, and shop-fittings. The new feature is the spelling-bottles; brushes, odorators, show-vases, surface-papers for boxes, &c., are illustrated in their proper colours. This makes the catalogue a very useful one. A section of ruled blank pages is added at the end of the book as a "want list."

Personalities.

The author of the formula for the salvine dentifrice is Mr. R. U. Olver, not Oliver, as printed in our last week's note.

MR. WILLIAM KIRKBY, F.L.S., of Manchester, has been elected assistant lecturer in materia medica and pharmacy at Owens College, Manchester.

We are informed that a royal donation of 3*l.* has been sent to the wife of Mr. A. S. Thompson, chemist and druggist, 251 Balls Pond Road, London, N., the lady having given birth to triplets.

MR. JOHN BROOKS THORNLEY (a double medallist at Bloomsbury Square last year) has been appointed deputy manager of Messrs. Felton, Grimwade & Co.'s laboratories at Melbourne, for which place he sails on July 11 by P. & O. *s. s. Coromandel*.

SOCIETY OF CHEMICAL INDUSTRY.

ANNUAL MEETING.

THE first item in the programme provided by the Nottingham Section for the Annual General Meeting of their Society of Chemical Industry, was carried out on Wednesday, July 9, when about 200 officers and members came together at the University College, Nottingham, to elect office-bearers for the ensuing year, to transact some of the necessary business, and listen to the address of the retiring President (Sir Lowthian Bell, Bart.) Sir L. Bell, Bart., D.C.L., F.R.S., presided, and amongst those present were the Mayor of Nottingham (Mr. Alderman Goldschmidt, J.P.), Mr. C. Rider Cook, Mr. David Howard, Mr. Ludwig Mond, Mr. T. Tyrer, Mr. S. H. Johnson, Alderman Sir J. Turney (Chairman of the Notts Section), Mr. E. K. Muspratt, Prof. Clowes, D.Sc., Mr. R. L. Whitelay, Mr. S. V. Holgate, Mr. L. Archbutt, Dr. Norman Tate (Liverpool), Mr. Gamble (St. Helens), Dr. Alders Wright, Mr. Batty, and others.

THE MAYOR'S WELCOME.

The minutes of the previous meeting having been read,

The MAYOR of Nottingham gave a hearty welcome to the assembly. It afforded him great pleasure, he said, to offer them a welcome to the town, and he thanked them for the honour which he felt conferred upon him by the selection of Nottingham as their place of meeting. He hoped their gathering would be a success, and that when they left they would carry with them none but pleasant recollections. (Applause.)

The PRESIDENT, in turn, thanked the Mayor, the Corporation, and all the gentlemen connected with the meeting, for the kindness they had displayed in receiving them. His own recollections of Nottingham extended back twenty-five years; but, carrying his memory back to that time, he had the liveliest recollection of his visit. These sentiments were received with loud applause, and the meeting then proceeded to the general business, first taking the

APPOINTMENT OF SCRUTATORS.

Dr. ALDER WRIGHT proposed, and Mr. T. TYRER seconded the proposal, that Mr. S. D. Holgate and Mr. E. N. Butt be appointed scrutators. This was unanimously agreed to, and, the ballot-papers having been collected, the scrutators adjourned to their task.

REPORT OF THE COUNCIL.

The SECRETARY then read the report for the year 1890. It showed that the membership of the Society had increased from 2,445, as reported at the last meeting, to 2,595, or a net increase of 150 members. During the year 298 members had been elected, and 148 had been removed by death, resignation, and other causes. During the session 73 papers and 14 communications appeared in the Journal, as against 55 papers and 5 communications the year before. To the authors of these the Council would offer its best thanks.

The number of subjects treated under the 23 headings of the Journal and patent literature amounts at present to about 60, and was not likely to increase much in the future. Attention would now be devoted to the consolidation and perfection of each group in order that the specialist might find there a full and complete record of contemporary work. On June 23 last the treasury reported the sum of 1,720*l.* 6*s.* in the bank, as against 1,214*l.* 4*s.* 5*d.* a year ago. The investments of the Society remained as last year—viz., 3,688*l.* 15*s.* 9*d.*; but it was intended to add to this sum shortly 165*l.*, derived from 11 life composition fees, which have been received during the last two years. The revenue last year exceeded the expenditure by 607*l.* as against 918*l.* 14*s.* 9*d.* in 1888, but this reduction was foreseen last year and mentioned in the report. It was mainly due to diminished returns from advertisements and increased expenditure upon the Journal, which was money well spent. The Council had the pleasure to announce that, in constituting the permanent governing body of the Imperial Institute, the interests of

the chemical industries had not been passed over, and the appointment of one member had been allotted to the Council of the Society.

Mr. E. K. MUSPRATT then briefly moved the adoption of the report as read, and Professor CLOWES having seconded the motion, the report was adopted unanimously.

THE TREASURER'S REPORT.

Mr. E. RIDER COOK, hon. treasurer, submitted this to the meeting. It showed an income of 3,768*l.* 6*s.* 2*d.*, against an expenditure of 3,161*l.* 6*s.* 2*d.*, leaving a balance on the right side of 607*l.* The amount received from subscriptions was 2,905*l.* 5*s.* 2*d.*, and for the advertisements and sales of the Journal 755*l.* 16*s.* 10*d.* The expenditure in regard to the Journal appeared rather heavy in contrast to the receipts, the former amounting to 2,256*l.* Mr. Cook, in commenting upon the report, referred, with evident satisfaction, to the increase in the membership, and the consequent increase in the funds of the Society. He, however, warned them that the Council had taken a rather extravagant fit of expenditure, and, therefore, they must not expect to find the surplus of income

over revenue as much this year as last. If they continued to save 600*l.*, he would be satisfied. In a joocular strain he then thanked the members for not pressing him for receipts by return of post in the present session as they had in the past.

The PRESIDENT, in moving the adoption of the report, also proposed a vote of thanks to the hon. treasurer for the conscientious manner in which he had performed the duties entrusted to him. He thought that the best use that the money of the Society could be put to was in spending it for the benefit and use of the present members. (Applause.)

Mr. ARCHBUTT, in the absence of Alderman Sir J. Turney, seconded the vote of thanks, which was accorded, and the report passed.

The PRESIDENT, before proceeding with his address, rose to thank the members briefly, though not without some feeling, for the pleasure he had experienced in acting as their President for the past year, and also to thank his



Mr. E. RIDER COOK,

The new President of the Society of Chemical Industry.

colleagues upon the Council, and members generally, for having appointed him to fill that honoured position. (Applause.)

THE PRESIDENT'S ADDRESS.

Sir Lowthian Bell's address was entitled "The Smelting of Iron Ores Chemically Considered." It was very lengthy, but is a valuable contribution to scientific literature, presenting as it does a *résumé* of the life experience of the best authority on the subject. In introducing his subject, the President pointed out that fifty years ago, when he was commencing his manufacturing career, the relationship between the science of chemistry and the manufacture of iron was scarcely recognised. Nevertheless during the half-century, in point of production and in manufacturing proficiency Great Britain has occupied the foremost rank as an iron-making nation. A chemical product like soda ash may contain besides sodium carbonate 15 per cent. of foreign matter, without, for most purposes, the commercial value of its alkali being seriously impaired. One part of foreign matter in two thousand of pig iron would cause it to be rejected by the Bessemer-steel maker as unsuitable for his purpose. This shows how the subject comes within the range of chemical investigation. The removal of foreign matter, and the oxidation of the continuing metalloids in the Bessemer converter by a rapid current of highly-compressed air, is one of the most interesting and successful applications of chemical science known in industrial enterprise, and the President proposed in his address to submit his more recent views on the chemical questions involved in smelting the ores of iron.

Rationale of the Smelting Process.

Roscoe and Schorlemmer thus describe the action of the blast-furnace:—"The fuel uniting with the oxygen of the blast burns with formation, in the first place, of carbon dioxide, and this is reduced to carbon monoxide by contact with glowing carbon. This latter gas, coming in contact with the constantly-descending charges of ore, reduces the ferric oxide to spongy metal. . . . The zone in which this reduction occurs is situated at a higher or lower part of the furnace according to the nature of the ores, and its temperature varies from 600°-900° C. As the spongy iron descends it arrives at the hotter parts of the furnace. . . . At this point the finely-divided spongy iron begins to take up carbon, and it may therefore be termed the zone of carburisation." The zone in which fusion takes place is then described, along with the reduction of certain other metals and metalloids. Allusion is subsequently made to experiments of Cailletet, in which "it appears that even in the hottest parts of the furnace, and at the point at which the combustion is most perfect, carbon exists in the solid state from the dissociation of carbon monoxide into carbon dioxide and carbon, brought about at very high temperatures."

"My own experiments and investigations," said Sir Lowthian Bell, "have led me to conclude that the action of the blast-furnace is somewhat less simple than might be inferred from this description. That the greater portion of the reduction of the ore takes place in the upper zone is doubtless beyond all question. Nothing, however, is said of the important part played by a distance of 33 to 60 feet in the depth of the furnace in intercepting the heat which, but for it, would be wasted. To such an extent is this duty performed, that I have estimated in a modern furnace that for every unit of heat evolved at the tuyeres, $2\frac{1}{2}$ units are returned to this point from the magasin stored in the descending current of materials. It will also be shown that besides the deposition of carbon at high temperatures mentioned by Cailletet, this action commences with the reduction of the ore, say, at 150° C. It will then be shown that if reduction is ever completed in the upper zone, which is more than doubtful, the spongy iron then produced would, during its passage through what I have designated a zone of heat-interception, and in presence of an intensely deoxidising atmosphere, be reoxidised by the action causing the deposition of carbon. However this may be, there seem strong reasons for believing that something like 10 per cent. of oxygen required to form Fe_2O_3 remains in the ore until at or near the point where fusion takes place."

The treatment of the subject was of course highly technical, and cannot be given in abstract, especially as great numbers of the experiments are recorded in elaborate

tables. The following incidental notes from the address are, however, of general interest.

Cyanogen in the Blast-furnace.

There is one chemical reaction in the blast-furnace which merits some notice—viz., the generation of cyanogen. This is not from any importance the subject as yet possesses as a commercial question, because the quantity so produced is not large, and of this a great portion is decomposed by the oxide of iron it meets with in the upper or reducing zone. The formation of this compound of carbon and nitrogen is doubtless due to the presence of soda and potash in the materials used, and it seems highly probable that these alkalis or their metallic bases in the form of sodium and potassium cyanides being volatilised and partially deprived of their cyanogen, are condensed in the upper regions of the furnace and then returned to the hearth over and over again. From some cause the amount of cyanogen present varies considerably at different times, the point of generation apparently being at the hearth. The quantity formed per cubic metre of gas four feet above the tuyeres varied on six consecutive days from 9 to 20 grammes. In the gases escaping from the furnace the proportion per cubic metre varied from 1.79 to 6.60 grammes. In view of the value of the cyanides in the arts, the President questions whether this production of cyanogen has received as much attention as it deserves.

Still More Economy Possible.

In concluding his address, the President said it had been attempted, in the present contribution to the work of the Society, to establish for the blast-furnace a character for an economical use of fuel. At the same time it has been proved that the duty performed is by no means equivalent to the whole of the useful effect which coke is capable of affording. Taking a ton as being able to produce 20 cwt. of pig-iron from Cleveland ironstone, this, after an allowance for ash, &c., represents, when burnt to carbon dioxide, 147,200 calories, whereas something like 90,000 calories has been the limit of the power obtained. This apparent sacrifice of nearly 40 per cent. is incurred by what is considered the physical impossibility of bringing, in this particular process, the whole of the carbon burnt to its highest point of saturation with oxygen.

Forty years ago this unexpended energy was not turned to any useful account. This loss is now avoided by burning under the boilers and in the hot-air stoves the carbon escaping from the furnace as combustible monoxide. By this beautiful application of what was a waste product, all the mechanical power needed at the works is obtained, at the same time that the blast is heated, and these advantages are accompanied by a considerable saving of labour. With the present improved form of furnace, the coal consumed for these two purposes would be much less than formerly, but even then it would not be much short of 10 cwt. per ton of metal. This calculation is based on the steam engines being on the non-condensing principle, but, assisted with condensers, steam enough is raised to do one-third more duty than called for at the furnaces.

When fire-brick stoves supply the heat to the blast, the loss at the chimneys is about one-half of what it is with those of iron pipes. In point of fact, at the former the temperature of the products of consumption does not greatly exceed that required for maintaining a good draught.

There remains, however, as always happens, a considerable loss at the boiler chimneys, but this at the Clarence Works is utilised by applying the waste heat for the evaporation of brine. A similar use is about being tried at the same place with the heat contained in the molten slag before it is thrown over the spoil heap.

Mr. RIDER COOK, rising when the applause had discontinued, said he had been asked by the Council to propose a hearty vote of thanks to the President for the address he had just given. There were two reasons he had for not trespassing upon their time at any length—first, that he understood short speeches were to be the order of the day; and secondly, that he was bound to admit the subject of the paper was one of which he knew very little. (Laughter.) He would, however, say that to him, as an outsider, the

paper had been exceedingly interesting. To those who understood the smelting of iron in blast-furnances, he imagined it must have been of a great deal more interest. One feature of the paper struck him, and was also probably noticed by other members of the Society who were not intimately acquainted with iron-smelting, and that was that in the paper they had an illustration of how science and accurate knowledge, applied to a branch with which they were not familiar, produced the same results as they each found it did in the branches with which they were familiar. The paper had shown that where gentlemen like their President had brought to bear chemical knowledge and science upon this apparently rough-and-ready operation, that science and knowledge had been rewarded by commercial prosperity and in the saving of fuel. He had great pleasure in moving a most hearty vote of thanks. (Applause.)

Mr. LUDWIG MOND, rising to second the vote of thanks, said the President, after the work of a lifetime, had laid before them his latest opinions and his latest results upon that work. He need not dwell upon the importance of following up step by step every improvement in manufacture by studying the causes, however small they might appear on paper, for surely nothing would appear simpler to a chemist than the reduction of oxide of iron by carbon. He wished to point out the importance of investigating step by step what happened in the various parts of our apparently simple apparatus, a blast-furnace, and of following the temperatures in the various portions, and trying to explain the great complication really underlying what appeared so simple. By truly understanding the real facts they could get the best possible results. He had the greatest pleasure in seconding the vote of thanks to the President for his address.

The vote of thanks was then accorded with acclamation, and Sir Lowthian Bell having briefly responded,

THE SCRUTATORS' REPORT

was announced. The following are the office-bearers for the year:—

President

E. Rider Cook.

Vice-Presidents

R. Forbes Carpenter
Sir Lowthian Bell, Bart., F.R.S.
David Howard
Prof. James Dewar, F.R.S.
James Duncan
B. E. R. Newlands

S. H. Johnson
Ludwig Mond
Dr. Hugo Müller, F.R.S.
Dr. W. H. Perkin, F.R.S.
Dr. Edw. Schunck, F.R.S.
J. C. Stevenson, M.P.

Ordinary Members of Council

L. Archbutt
S. B. Boulton
Jno. Brock
Jno. Calderwood
Jno. Pattinson
Jno. Spiller

A. H. Allen
H. Grimshaw
Prof. R. Meldola, F.R.S.
B. K. Muspratt
T. L. Patterson
T. W. Stuart

Honorary Treasurer.

E. Rider Cook

Hon. Foreign Secretary

Dr. F. Harter

APPOINTMENT OF AUDITORS.

Mr. S. H. JOHNSON proposed, and Mr. Gamble (St. Helens) seconded the motion, that Messrs. Theobald Bros. & Miall, chartered accountants, London, should be reappointed auditors, and this, on being put to the meeting, was agreed to.

NEXT YEAR'S MEETING

Mr. T. TYRER next made the communication that Birmingham had been selected for their annual meeting next year, and he was quite sure from the correspondence which had passed that they would receive such a welcome there as Birmingham could well afford. (Applause.)

Mr. BATTY (Birmingham) said they at Birmingham had been slow in inviting the Society to meet there, but when they did meet in that town he hoped they would be able to make up for the past neglect. (Applause.)

The PRESIDENT, following, proposed a vote of thanks to the Senate of the University College of Nottingham for having so kindly received them and placed the premises at their disposal. (Applause.)

Dr. NORMAN TATE (Liverpool) seconded this amid loud applause, and the MAYOR having spoken in reply, the business of the day came to an end, and the members then proceeded to the station to take train for Derby to inspect the works of the Midland Railway Company, and be entertained by the Nottingham Section to luncheon.

VISIT TO THE MIDLAND COMPANY'S WORKS.

After the termination of the meeting at the University College a large party in various conveyances hurried off to catch the 1.20 train from the Midland Station, *en route* for Derby, where luncheon, by the courtesy of the Nottingham Section of the Society, and a visit to the Midland Company's Works, were the chief attractions. The visit to these vast locomotive works took up the whole afternoon, and was a complete success, owing to the affability and kindness of the superintendent and his assistants, who acted as guides over the various establishments. The locomotive works alone employ about 2,850 workmen, and the visitors were initiated into the mysteries of construction from the pouring of the molten metal into the moulds for the rail supports, through the various grades, to the finishing and painting department, where some of the finest engines in the world stood ready for active service. It would be impossible to describe, in the short space at our disposal, the intricacies of moulding, forging, drilling, slotting, fitting, and finishing carried on in what seemed endless buildings, which three hours of the afternoon were occupied in merely walking through. But the magnitude of the place, the vast forges, in which numbers of blacksmiths, with their brawny arms and swarthy faces, were at work in the glow of the numerous fires, the beauty of the machinery by means of which the drilling, binding, fitting, &c., were carried on, the pandemonium of the boiler-shed, the testing-shop, with its wonderful machines, and lastly, the extensive laboratory and photographic department, where the ferro-cyanide process of reproducing tracings for negatives and a negative about 30 in. by 20 in. were shown—all drew forth the astonishment and interest of the visitors.

At 5.30 p.m. the Society members returned to Nottingham to take part in the reception and conversation at the castle, by invitation of the Mayor. Thus the first day's proceedings of the annual meeting were a complete success.

THURSDAY'S PROGRAMME.

As early as 9.50 A.M. on Thursday a party started for Burton to make a visit to the celebrated Burton breweries. And later in the day arrangements had been made to view the Batterley Ironworks. As an alternative, for those who were interested in the lace-trade, for which Nottingham is so justly celebrated, seven of the principal embroidery, lace, and hosiery works of the town were, for the purposes of viewing, placed at the disposal of the members of the Society; a busy day being wound up by the annual dinner in the Exchange Hall in the evening.

CHANGING THE LABELS.—In a New Brunswick town, recently, an order was given to a general dealer for some Peruvian bark. He forwarded it to a firm in St. John, and the person who put up the cinchona also put up some sulphate of morphia for another customer, and after labelling the parcels, put on the wrong addresses. This was how the morphia was made into bark wine, of which a Mrs. Connors drank and lived but a short time, while others became ill.

TRADE-MARKS IN MEXICO.—There is a Trade-mark Act in Mexico, according to which proprietors of the trade-marks, whether native or foreign, residing in Mexico can obtain the sole right to the use of such marks in that country by conforming to the regulations of the Act. Mexicans and foreigners not residing in Mexico can have their marks registered, provided they possess in Mexico an industrial or commercial establishment, or agency for the sale of their products; but as regards foreigners, such registration must be without prejudice to any conditions made by treaty. The trade-mark of a foreigner not residing in Mexico cannot be registered in the Republic unless such mark be already registered in the country of origin.

Legal Reports.

AN ASSISTANT'S CLAIM.

IN the Chancery Division of the High Court, on July 4, before Mr. Justice Kay, the case of *Julor v. Sturgis* was settled. About a fortnight ago the learned judge made an order restraining the defendant from trespassing upon the plaintiff's premises. It was then stated that the defendant was the assistant of the plaintiff in his chemist and druggist's business at Erith, in Kent; that the plaintiff had sold his business; and that the defendant not only refused to leave, but threatened with a hatchet all who went to the premises for the purpose of removing him. Mr. Bramwell Davis now asked for costs, remarking that the defendant had given up possession. The defendant, appearing in person, stated that he was entitled to occupation of the premises until the 18th of the present month, according to the terms of his engagement, and also to salary up to that time. The action of the plaintiff was a vindictive one, and an attempt to evade payment of his (defendant's) wages. Mr. Bramwell Davis said the defendant was entitled to a fortnight's wages, 4*l.*, which the plaintiff was willing to pay. The defendant said he was entitled to more than that, but he would leave the matter in the hands of the Court.

Mr. Justice Kay (to Mr. Davis): Will you pay the defendant 4*l.* and costs.

Mr. Davis objected to pay the costs.

Mr. Justice Kay (to the defendant): You had better accept the 4*l.* offered, and have nothing to do with lawyers if you can help it. (Laughter.)

The defendant, amidst laughter, said he believed his Lordship's advice to be good, and would take the 4*l.*

Mr. Justice Kay then ordered the money to be paid to the defendant in the course of the day, and all further proceedings in the action to be stayed, without costs.

THE INDECENT ADVERTISEMENTS ACT.

AT the Cardiff Quarter Sessions, on July 4, Richard Price, herbalist, Bute Street, appealed against a decision of the Cardiff stipendiary, dated March 28, convicting him of an offence under the Suppression of Indecent Advertisements Act. On March 4 Mr. McLachlan, solicitor, of Neath, was going along Bute Road, and when passing the shop of the appellant he saw a man outside with a sheaf of notices of an indecent character, one of which was delivered to him [produced]. He went in and asked Price if the bills were his, and if the man was distributing them for him. He replied that the bills were his. He subsequently communicated with the National Vigilance Association, who took action on it. Mr. Terrell, for the appellant, submitted that the evidence was illegally and improperly obtained, but he could not contend that it was inadmissible. He would at least ask the Court to modify the sentence passed in the court below. The imposition of a fine instead of a month's imprisonment with hard labour might well meet the exigencies of the case. Evidence of good character was tendered, but the Recorder confirmed the conviction, dismissed the appeal with costs, and declined to reduce or alter the sentence. He did not think it was one day too much. The mischief done by handbills of this kind was incalculable, and he thought it was a great blessing that the Legislature had stepped in and had by statute made the offence penal.

Oakey's KNIFE-POLISH LABEL.

IN the case of *Oakey v. Flatau* the plaintiffs had obtained an injunction from Mr. Justice Kay, restraining the defendant from using a certain label for knife-polish on the ground of its resemblance to a label which had long been used by the plaintiffs for a similar article. The plaintiffs have carried on business since 1857, and their knife-polish is sold in circular canisters of various sizes, and is known as "Wellington" knife-polish. The label consists of a side-faced portrait of the Duke of Wellington, looking to the left, on a white background, surrounded by an oval rim or frame with the word "Wellington" at the top, and the words "John Oakey and Sons, Wellington Emery and Black Lead Mills, London," at the bottom, and the words "Knife-

polish" within the rim or frame. The label also contained two tablets, with directions for use on the one and a description of the knife-polish on the other. At the date of the alleged infringement the label commonly used by the plaintiffs had a green ground with a red frame upon it. The defendant, William Flatau, a drysalter, of 9 Bevis Marks, had, in 1889, introduced a "Nelson" knife-polish, in canisters of a similar size and shape to those used by the plaintiffs. The label on the defendant's canisters contained a side-faced portrait of Nelson, looking to the left, on a white background, enclosed in an oval frame, with the word "Nelson" at the top, and the words "Manufactured by W. Flatau and Sons" at the bottom, and the frame contained the words "Knife-polish." There was only one tablet on the label, which contained both directions for use and a description of the polish. The colour of the frame was blue, and the general colour of the label was red. Besides other minor points of difference, the defendant's label contained a representation of a man-of-war.

A man named Thompson, on whose suggestion the defendant had taken up the manufacture of this article, admitted that when he went to the printers to order a design for the defendant's label he took with him a label of the plaintiffs', but the explanation which he gave was that he was anxious to secure that the designer should invent a perfectly distinct label. In consequence of the plaintiffs' remonstrances the defendant consented to substitute a diamond-shaped frame for an oval one, but the plaintiffs were not satisfied with the alteration, and accordingly they began this action to restrain the defendant from using his label. Mr. Justice Kay considered that the use of the label was a fraud upon the plaintiffs, and granted an injunction. The defendant appealed, and the case came before the Court of Appeal on the 4th inst., Mr. Aston, Q.C., and Mr. Ingle Joyce appearing for the plaintiffs, and Mr. Marten, Q.C., Mr. Moulton, Q.C., and Mr. Willis Bund for the defendant. In the result the Court dismissed the appeal, Lords Justices Cotton and Lopes agreeing in their judgments, and Lord Justice Fry doubting.

Lord Justice Cotton said it was not necessary to prove any fraudulent intent on the part of the defendant in dressing the tins in the way he had done if afterwards, when it was found that mistakes were liable to arise, he declined to alter the label. But the Court ought to consider how this guise originated. The defendant was embarking for the first time in the trade of selling knife-polish on his own account, and he took the name of "Nelson," the plaintiffs having taken the name of "Wellington." He was singularly unlucky in what he did. When the designer asked what sort of a label he wanted, and what size, he produced one of the plaintiffs' tins to show the size and to show how the label was to be prepared. He did that, it was said, in order that his label might be as distinct as possible from the plaintiffs'. His Lordship, having pointed out the similarities and differences between the two labels, said it was not necessary to prove that the defendant, in his original conception, had any fraudulent intent, but he was bound to come to the conclusion that the defendant did intend to go as near as he could to the plaintiffs' label consistently with avoiding the interference of the Court of Chancery. The question was whether he had succeeded. The people who bought the plaintiffs' knife-polish, whether they were mistresses or servants, would not necessarily know the name of it, or they might have known originally, and might have an imperfect recollection of the name; but they would know that it was sold in tins having a representation of a head in a frame on a white background. In his Lordship's opinion, a person having only this general knowledge might easily be induced to take "Nelson" polish when he wanted "Wellington." His Lordship thought the defendant had done all he could to get some of the credit which the plaintiffs had got by their large trade and by their skill.

Lord Justice Fry thought the label with the diamond frame would not deceive him, nor should he have supposed that it would deceive purchasers generally. If he had not had the assistance of his learned brothers, he would probably have arrived at a different conclusion. He did not, however, regret the conclusion at which the Court had arrived, as he was bound to say that the defendant had endeavoured to go as near the line as possible.

Lord Justice Lopes agreed with Lord Justice Cotton.

FRENCH PHARMACEUTICAL NEWS.

(From our Paris Correspondent.)

AN INTERNATIONAL EXHIBITION will be opened at the Palais de l'Industrie on July 21. Exhibits are said to be coming in freely both from France and abroad. The Parisian section is to contain a certain number of the exhibits which won prizes last year.

FACULTY OF PHARMACY.—An examination of validation of "stage," required of candidates for the grades of Pharmacists of the first and second classes will be held at the Faculty of Medicine and Pharmacy of Bordeaux on August 1. Applications to take part in the examination are to be made personally, or by letter addressed to secretary of the Faculty. The following papers must be produced:—1, Birth certificate; 2, certificate of studies; 3, proof that three years of pupilage have been satisfactorily accomplished; 4, certificate of moral character. Further, an examination-fee of 1*l.* has to be paid.

LUMINOUS SIGNALLING FROM THE EIFFEL TOWER.—Last week a novelty in the form of signal communication from the Eiffel Tower with a travelling balloon was tried. The experiments resulted so far satisfactorily as to allow the course of the balloon to be traced by light-projectors from the top of the tower. A dense atmosphere prevented counter-signals from the aeronauts. The balloon left the La Villette gas-works soon after 9 P.M., and for twenty minutes the electric flash-light from the tower distinctly showed its course. The experiments were superintended by a military officer in the presence of several scientists.

EXTRAORDINARY SURGICAL OPERATION. — Professor Verreuil read a paper at the last meeting of the Academy of Sciences on the subject of a novel and recently-performed surgical operation. The patient was a little idiot girl of four years, an inmate of the children's hospital. She could not stand, never smiled, took no interest in what passed around her, and her head was only a third of the normal size. It was decided to try the effect of an operation which would give more room to the brain. An incision was made in the skull along the median line, extending from the frontal suture to the occipital suture, and part of the substance of the skull on the left side was removed. The operation took place on May 9, and on June 15 the child began to walk, play with her doll and behave generally like an ordinary being. The little patient elicits much interest amongst the members of the medical profession.

QUININE WINE.—The Court of Cassation has again given a verdict in favour of liberty in the sale of quinine wines. The Syndicate of Pharmacists of the Indre department summoned a grocer named Meunier before the Châteauroux tribunal for selling a preparation known as Vial's quinine wine. A fine of 20*l.* was asked for. This court ordered the wine to be analysed in order to test whether it contained a sufficient quantity of quinine to make it a medicine, and finally gave a verdict for the defendant. The Syndicate considered that the fact of the wine containing quinine in any quantity made it a medicine, and carried the case to the Bourges Court of Appeal. There a second adverse decision was given, in spite of which the case was brought before the Court of Cassation, the result being that the decisions of the other courts were confirmed. The president, in giving judgment, stated that the wine being a hygienic preparation, and not a remedy, might be sold by anyone. The Syndicate was condemned to pay the entire costs of the case.

THE MIRACLE-WORKER.—A youth of eighteen years of age, named Montaut, living in the Island of Oléron, has attracted much attention by professing to cure sick persons by the laying-on of hands. From all parts of the district patients pour in to see him, and declare themselves cured, or at least relieved. He is said to have discovered at once several persons who shammed illness. Montaut is merely a farmer's lad of no education. He makes no charge to patients, but cheerfully accepts gifts in kind or money. Oléron is reached by sea from La Rochelle. Many wonderful cures are spoken of in the neighbourhood, amongst the most remarkable being that of a man who had suffered

severely from rheumatism during seventeen years, a scrofulous girl, and an old woman, who for fifteen years has been unable to walk without crutches. Montaut never prescribes drugs. His treatment is simple: looking his patient straight in the face, he tells him at once from what he is ailing; then placing his feet on those of the patient, and holding both his hands, he makes a few signs over the affected parts, and says, "You are healed; go!" The remarkable thing is that the people are healed, or think they are. On the other hand, a doctor, who has for many years practised at the town of St. Georges, on the Island of Oléron, states, during an interview, that the visions or hallucinations which the boy had in childhood lead him to suspect that he is hysterical. He thinks he may possess hypnotic power, or, in any case, he would often have heard of it. The woman Fleury, with whom Montaut stays, suffers from a chronic disease; she has consulted all the doctors in the district, also the magnetisers and other quacks for miles round; she knows their modes of operating, and the boy is possibly merely a tool in her hands. The poor people who consult the lad are convinced beforehand that they are to be cured, and this alone naturally produces an improvement in their condition, while the healer's faith in his powers is not lessened by that doubt which learning might produce. "Time," says the doctor, "will soon destroy the renown of young Montaut, and matters may end for him in the police-court, as they did some years ago with his notorious predecessor, the ex-Zouave Jacob."

GERMAN PHARMACEUTICAL NEWS.

(From our Berlin Correspondent.)

THE NEW GERMAN PHARMACOPŒIA, which it is expected will be obtainable in August, already influences the manufacturers. Preparations are being made in accordance with the new requirements, and stock generally is being overhauled and examined—an operation necessitated by the revision of the specific gravity of a number of substances.

OPENING A PHARMACY.—That chemists are not too numerous in this country is clear from the excitement which attends the inauguration of a new business. This important function took place the other day in a little village, and was the occasion of general festivities. A grand banquet was arranged, and the services of a military band were requisitioned; the whole village took part in the proceedings, which had the character of a public thanksgiving. In the quaint words of a local print, "After nearly forty years of petitioning, waiting and eager desire, the inhabitants celebrated with joy this beneficent institution."

PROTECTIVE LEGISLATION for pharmacists as for other classes of the community, cannot be so framed as to defy evasion. As an instance of this may be mentioned the offering of an "International Sanitary Pocket Apotheke" by a bookseller of this city, which the publisher claims can be sold by anyone, as it is fitted only with articles which do not come within the purview of the law regulating the sale of medicines. Nevertheless it contains all such medicaments and dressings as are likely to be required by the traveller, together with a detailed description of the methods of application in German, English, French, Dutch, Italian, and Spanish. The value of the arrangement may be estimated by the fact that they are to be obtained at 5*d.* each.

CHINESE PRESCRIPTIONS for diphtheria have been recently studied by Professor Liebreich. A certain physician with the characteristic name Si Ma Jn, who is particularly successful in treating the disease named, employs chiefly powders and a decoction. The former, which vary in colour, are secret. Among the recipes given for other powders all are distinguished by the presence of 8-19 per cent. of urinary sediments and 6-13 per cent. of bezoar, while most contain borneol, cinnabar, cupric acetate, calcined borax, carbon and vegetable substances. Out of this farrago it does not seem incredible, viewed even in the light of western science, that the borneol camphor has antiseptic virtues, while the calcined borax, mercuric sulphide and cupric acetate would certainly exert some caustic effect which might be beneficial.

THE "SERIES" QUESTION again comes into prominence with the advent of a new Pharmacopœia. This Series is a list containing the names of a number of preparations and drugs which have to be always kept in stock by the pharmacist. The objection to it is chiefly due to the variation which it undergoes in different parts of the country—being drawn up in accordance with the judgment of the authorities as to the substances most prescribed—and to the fact that it necessitates the stocking of a number of articles which, as a matter of fact, are never prescribed, and which have to be constantly renewed at more or less expense, as they do not keep well. It is therefore hoped that the Government will not continue to harass the apothecary by these regulations, especially as he naturally, in his own interest, stocks such articles as there is a demand for in medicine, besides many other preparations which the official list does not name.

THE PURITY OF ANTIFEBRIN.—It is strange that warnings should only just now be heard of the dangers of antifebrin or acetanilide, after it has been for so long a time in commerce. The number of more or less pronounced acute poisoning cases with the preparation has given rise to a more intimate investigation of its properties and action, both from a physiological and therapeutical point of view. In this way it has been ascertained that nearly all the acetanilids of commerce are impure, not having the true melting point, and it is believed that all the untoward symptoms are to be ascribed to foreign compounds, specially to toluidines present as impurities. One case has been reported where a student took no less than an ounce of antifebrin "chemically pure" with impunity, which would not have been the case if the specimen had been impure.

TRADE-MARKS APPLIED FOR.

THE *Trade Marks Journal* publishes the following notice:—"Any person who has good grounds of objection to the registration of any of the following marks may within one month of the date of this journal, give notice in duplicate, at the Patent Office, in the form 'J,' in the second schedule to the Trade Marks Rules, 1890, of opposition to such registration." All communications to be addressed to H. Reader Lack, Esq., Comptroller General, at the Patent Office, 25 Southampton Buildings, Chancery Lane, London, W.C.

From the "*Trade Marks Journal*," July 9, 1890.

"NABOTHINE"; for wood stains and stain powders. By H. J. Simpson and G. de M. Mackirdy, trading as Simpson, Mackirdy & Co., 7 Rumford Street, Liverpool. 97,758.

"PINOSOL"; for disinfecting liquids, powders, and soaps. By W. O., T. O., and O. Quibell, trading as Quibell, Bros., Newark. 97,484.

"MOONSEED ANTIOBESSE ALTERATIVE" and sketch of flower of tuber plant; for a medicine for human use. By A. E. Powell-Woodland, trading as Powell & Co., The Manor House, Swindon. 95,351.

"GOLDING'S RESTORATIVE"; for a medical preparation for human use. By J. F. Golding, 172 Albany Street, London. 96,677.

"NULTRA"; for substitute for turpentine, and for boiled linseed oil. By J. Bentley, trading as Maburn & Co., Blackburn Street, Salford, Manchester. 95,971.

"FLINTOFF'S DENTAL DYNAMITE," and other wording, on black label; for a stopping cure for toothache. By C. Flintoff, Hill House, Alnwick. 85,474.

Design of shield with lions, and signature underneath; for meat essences and animal food extracts. By H. K. Edge, trading as Edge Bros., 9 Farringdon Road, London. 97,585.

"VIGRAL," and "THE ARMoured BRAND," also showing knight in armour; for peptonised and other beef tea, jelly for food, and extracts of meat. By Hertz & Collingwood, 101 Leadenhall Street, London. 97,745, 97,746.

"GUESS," with wording, on label; for a perfume. By F. Thompson, Boundary House, High Street, Radley, Middlesex. 97,592.

"P & O," in centre of oval label, and other wording; for mineral and aerated waters. By J. Peters and G. Osborne, trading as Peters & Osborne, near Treharris, Glamorgan-shire. 96,761.

"CHAMELEON HAIR RESTORER," and other wording on label; for a preparation for the hair. By Eliz. Lyon, trading as Lisle & Co., 163 Amhurst Road, London. 93,310.

"DEPILATORY," and signature beneath; for a depilatory as toilet article. By E. Morphy, 70 South Audley Street, Grosvenor Square, London. 96,310.

"HAIR RESTORER," and "HAIR LOTION," with signature beneath in each case; for preparations for the hair. By E. Morphy, 70 South Audley Street, Grosvenor Square, London. 97,264, 97,267.

Gazette.

PARTNERSHIPS DISSOLVED.

Brockwell, Gandy & Weir, Upper Norwood, medical practitioners, surgeons, and accoucheurs; as far as regards W. Weir.

Burch, J., Shaw, F., and Dunn, C. A. (under the style of G. Curling & Co.), St. Mary Axe, City, wholesale druggists.

Dalton & Ferrier, South Norwood, general medical practitioners.

Loe, D. P., Harker, H., & Mew, W. C. (under the style of G. Harker & Co.), Upper Thames Street, and Swan Lane, City, spice merchants and warehousemen; as far as regards D. P. Loe.

Middleton & Hovell, Norwich, hair, cloth, and brush manufacturers.

Shannon, W., & Sharrock, J. Hudson (under the style of the Windsor Mineral-water Manufactory), Liverpool.

Shute & Dashwood, Croom's Hill, Greenwich, surgeons.

Todd, W. R., Todd, W. A., Robins, W. G., & Wharam, W. J. (under the style of W. R. Todd & Son), Kingston-upon-Hull, paint, colour, and varnish manufacturers and merchants; as far as regards W. R. Todd, deceased, and W. J. Wharam.

Obituary.

ADAMS.—On June 30, Mr. John Rowland Adams, chemist and druggist, 115 Turnpike Lane, Hornsey, after a long illness. Aged 44.

BOSTOCK.—On June 17, Mr. Samuel Pass Bostock, chemist and druggist, Market Street, Hyde. Aged 29.

GALLOWAY.—On June 18, Mr. James Barker Galloway, chemist and druggist, St. James's Street, Liverpool. Aged 38.

JESSOP.—On Saturday, June 28, at Halifax, Mrs. S. Jessop, the wife of Mr. R. H. Jessop, of Halifax.

KIRK.—On June 24, Mr. Charles Kirk, chemist and druggist, Kimberley, Notts. Aged 70.

OAKLAND.—On June 29, Mr. Charles Oakland, Warser Gate, Nottingham. Aged 61.

SANDY.—On June 26, in her 39th year, Mary Ellen, the beloved wife of F. W. Sandy, chemist, 302 Mare Street, Hackney, N.E.

TIBBITS.—On June 21, Mr. John Tibbits, chemist and druggist, Broadholme, Lincoln. Aged 28.

WATERHOUSE.—On June 24, Mr. Jabez Waterhouse, chemist and druggist, Stamford Street, Ashton-under-Lyne. Aged 71.

WATERS.—On June 20, Mr. Henry Griffiths Waters, chemist and druggist, Church Road, Burgess Hill. Aged 56.

NOT CICERONIAN.—A chemist in a university city, on opening shop the other morning, found the following inscription neatly written on his shutters:—"Ilic venditur catharticum emeticum narcoticum et omne quod exit in um præter romedium."

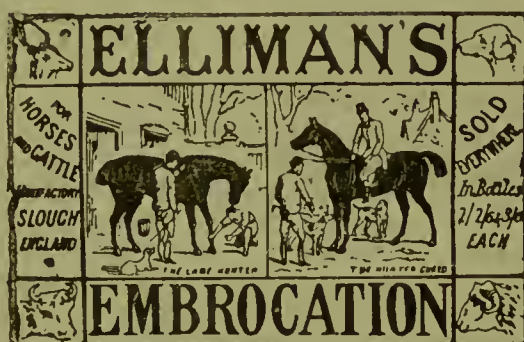
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EDITORIAL NOTES.

TRADE IN THE FIRST HALF-YEAR
OF 1890.

THE Board of Trade Returns for June, which have just been issued, and complete the official account of the trade of this country for the first half of the current year, afford one of the best means available of estimating our commercial progress. If we compare the figures with those of last year, when almost every month showed a considerable increase in business all round, they are slightly disappointing. Taking the imports first, we find that of the nine great branches into which the Customs officials divide the figures six show an increased value, as follows:—Living animals (for food), 21 per cent.; articles for food and drink, $\frac{1}{2}$ per cent.; metals, 5 $\frac{1}{2}$ per cent.; oils, 9 per cent.; raw materials for sundry industries, 1 per cent.; manufactured goods, 1 $\frac{1}{2}$ per cent. These increases, however, are more than absorbed by a great falling-off in the imports of raw materials for textile industries, the value of which declined from 51 millions in 1889 to 48 millions in 1890; chemicals, dyestuffs, and tanning substances also show a somewhat serious decline—

from 5,362,000*l.* to 4,884,000*l.*, or about 9 per cent. But it must be borne in mind that in this particular department business has been unusually disappointing this year. On the whole, then, there has been a decline of rather over a million sterling in our imports for the half-year—a large amount enough in itself, but, after all, less than one-half per cent. of our total imports. The growing popularity of the Parcels Post may be estimated from the fact that we imported by this mode of conveyance 238,982*l.* worth of goods from abroad during the first half of the year—an increase of 22 per cent. on the figures of 1889. Our exports are much more promising from the point of view ordinarily accepted by traders. To a devoted follower of Henry George, who accepts the theory that, of the two, export duties are preferable to import duties, because they act as a deterrent to the sending of valuable goods out of the country, a surplus of 8,146,200*l.*, or 7 per cent., in our exports for the first half-year of 1890, as compared with 1889, must be matter for lamentation rather than satisfaction. Yet, for good or ill, such is the fact. Between January and July, 1889, we sent out 119,409,705*l.* of British goods, and in the same period of 1890, 127,555,965*l.* This increase is distributed over all departments but two, and those of small national importance. The largest growth is in raw materials (26½ per cent.); then follow metals and metal goods (16½ per cent.), and “chemicals and chemical and medicinal preparations.” This last branch shows an increase from 3,914,726*l.* to 4,438,238*l.*, or 13½ per cent. Our re-exports of foreign and colonial produce continue to display the decline which first became noticeable in this branch of trade a few years ago, and has since been accentuated by foreign and colonial development, the tendency to ship direct to the consumer instead of through a middleman in a central market, and the opening of new direct steamship lines between the Continent and far-off countries of production. The falling-off on the half-year under notice is from 33,839,910*l.* to 32,919,770*l.*, or about 2¾ per cent. Turning to the figures relating to special articles, we find that the tea imports from India and Ceylon have quite outgrown those from China, British India taking the lead with 32,000,000 lbs., Ceylon being second with nearly 22,000,000 lbs., and China having sent only 19,000,000 lbs. Of course, the inequality of the seasons of production in India and China partly accounts for this, but the figures nevertheless show that the same dry-rot has overtaken the Chinese tea exports which began to show itself in her opium imports some years since. Under chemicals and dyestuffs most departments show a more or less pronounced falling-off, but tanners’ barks, cochineal, and coal-tar dyes form an exception. Of the latter we imported over 292,000*l.* during the half-year, 50 per cent. of which is represented by alizarine. Our imports of fixed oils also show a large increase, especially in turpentine and petroleum. Cinchona bark continues to fall, and gum arabic also has declined from 140,010*l.* to 81,439*l.*, no doubt on account of the fact that the importation of the inferior grades of gum, with which our market has been swamped from all parts of the world, is ceasing to be profitable. The imports of unenumerated drugs for the first halves of the last three years are as follows:—1888, 465,506; 1889, 406,264*l.*; 1890, 466,164*l.* As regards our exports, particular interest attaches at present to our shipments of alkali, which have been 941,697*l.* against 775,731*l.*; but this increase is almost entirely due to the higher prices of alkalies, as the actual quantity shipped has not increased very much. The United States have taken about two-thirds, Russia, Spain, and British North America come next. Of bleaching-powder the United States take more than all our other foreign customers together. The exports this half-

year have been 820,385 cwts. against 739,848 cwts. in 1889. The exports of medicines, including drugs and medicinal preparations, show a strong advance, the figures for the corresponding half-years being: 1888, 469,948*l.*; 1889, 473,892*l.*; 1890, 522,795*l.*

SHOP HOURS.

WE are glad to see that hardy perennial the early-closing topic blossoming again so vigorously, though we have not much hope of a better show of fruit from it this year than in previous seasons. We are too well trained to disappointment in this respect to anticipate much from the resolutions which are being passed in such a methodical manner at meetings of pharmacists all the kingdom over; but it is at least well that the “longings” for a little more brightness in life should be kept glowing. Two objects are aimed at in the various agitations just now proceeding. In some places an earlier hour for closing is asked for, and in others, and more generally just now, a weekly half-holiday is the proposal. In some towns both objects are being sought. We have published within the past few weeks more or less hopeful notes on the subject from Birmingham, Bradford, Brighton, Derby, Dublin, Dundee, Edinburgh, Glasgow, Halifax, Hull, Liverpool, Manchester, Nottingham, and Sheffield, and we may hope that these are only specimens of what is taking place in the country generally. What is asked is very moderate. In Liverpool, for instance, the chemists are only seeking to come to an agreement to close not later than 9 P.M. on five days in the week. We suppose that an average 12 hours a day for work, with more or less Sunday duty, would be a welcome relief to the majority of persons employed in the retail drug trade. Surely life ought to have a little more sunshine in it than that. It does not hurt a young fellow to bear the yoke in his youth, and we are quite aware that most of the masters, who are now the despots, have themselves gone through an even more wearisome mill than that which is now appealed against. But social reformers are looking forward to a time when everybody shall have his fair share of the joys of life, and no one can get that who has to work, either for himself or for a master, through nine-tenths of his waking hours.

But we have not much faith that these local agreements will go far towards bringing about a better state of things; there are many objections to forcing it by legislation, though no doubt there is a growing feeling in favour of some simple measure which shall provide a channel for improvement; and the sometimes suggested union of shop assistants is impracticable, and would only excite ridicule. The obstructors in all trades to a reduction of shop hours are—we are sorry to have to say it—the smaller and the poorer men. Among chemists this is certainly frequently, though not invariably, the case. We cannot but have some sympathy with the struggling trader who hopes that by putting in an hour or two more work by gaslight he may make an extra shilling or two, though for his own and everybody’s sakes, it is desirable that this hopeless competition should be checked. But there are many men, and we fear the proportion is unusually large among pharmacists, to whom life offers no better pleasures than the shop affords. They really enjoy keeping it open late. It is a pity that the indulgence of their laudable passion should have the effect, as it has, of sacrificing the happiness of so many other people. The remedy which is working, and will work more effectively yet, is, it must be said, the modern store system. These great juggernauts have done our trade immense injury, we are aware, but they are entitled to the

credit of having improved the condition of assistants. But may we not urge the richer chemists—and there are surely plenty of them who are independent of the trumpery earnings which late trade can bring—to take action in this matter without waiting for united compacts? The struggle-for-lifers, as the French call them, and those whose souls are limited by their counters, might be left to please themselves and the gas companies; but if the well-to-do druggists all over the kingdom would generally strike out independently, early closing would soon be the sign of high-class establishments, the late men would have to pay higher salaries or do their night work themselves, and a real philanthropic advance would be accomplished.

THE CHEMICAL UNION.

THE question of a syndicate or union of the various Leblanc chemical manufacturers of the United Kingdom has been greatly agitating the chemical trade for the last six or seven months, and sufficient progress towards the formation of a corporation has now been made to justify manufacturers in their sanguine views of the scheme being shortly brought to a successful issue. It is a matter of common notoriety that for many years the Leblanc chemical trade has been in a precarious condition owing to the fierce competition of the ammonia process both at home and abroad. Various efforts have from time to time been made to protect the interests of the Leblanc makers, and of these the most successful and the most lasting one was the Bleaching-powder Association. This body, however, ceased to exist at the end of last year, because its members were unable to agree to continue the "restrictive" policy so successfully carried on for nine or ten years. An attempt was then made to carry on the work of the association on a salt basis, leaving each manufacturer to produce any proportion he liked of bleaching-powder, chlorate of potash, or hydrochloric acid, but restricting the quantity of salt to be decomposed by him. This scheme was well received at first, but it also failed to give satisfaction to all the makers, and it became evident that without complete unanimity it was useless to carry on the association any longer. With the abandonment of the bleach restriction, every maker commenced to produce the utmost quantity of bleaching-powder his plant could turn out, and then came a speedy collapse in the price of the article. Prices rapidly fell until they were from two pounds to two pounds ten shillings per ton below those obtained during the time of restriction. Bleaching-powder having been for many years the principal article of manufacture of the Leblanc works, and the one from the profits of which makers expected to recoup themselves for the loss on their soda-products, the heavy reduction in price meant a serious loss to them. Add to this decline in price the increased cost of salt, coals and other raw materials, and the advance in wages, and it will be clear that the future prospect of the trade was a very gloomy one indeed for manufacturers. The question of a union of the Leblanc alkali-works was then mooted, and after several more or less informal discussions it was agreed to be practicable. Makers were invited to send in schedules of the value, condition, and production of their works, and the promoters of the scheme were said to be well satisfied with the number and extent of the replies sent in by the various manufacturers. Out of the whole of the Leblanc makers, it seems that only some four or five firms refused to join the combination, while the whole of the Tyne manufacturers, the leading Scotch makers, and the bulk of the Lancashire firms were in favour of the scheme. Committees and sub-committees were then appointed, and have been

holding meetings and making inspection of works in the various districts for some time past.

The details of the scheme have not publicly transpired, but from what can be gathered from different sources it seems that the Leblanc alkali manufacturers have been invited to form themselves into a "chemical union" with the object of making the production of chemicals by their process remunerative, so obtaining a fair return for the capital invested in their works. This involves the combination of the whole of the works under one board of directors, composed of practical manufacturers. The board will control the working operations of the factories and the sale of the articles manufactured from one central point. It is hoped that the centralisation will much reduce the cost of working expenses, as most of the town offices of the different firms, now used for the transaction of business and the shipping of goods, will be abolished and replaced by one general office in each district. The chief source of profit of the Union must be derived from the increased price for such chemicals as are not produced by the ammonia soda-makers. The formation of the Union, therefore, will mean considerable advances in the price of bleaching-powder, caustic soda, chlorate of potash, sulphate of soda, soda crystals, and a few other articles which belong to this category. In order to maintain the high price of bleaching-powder during the time of the Bleach Association, it was found necessary to restrict the capabilities of production of the works very severely, and a considerable advance in the price of the bleach at the present time will probably lead to the same results, as higher prices are generally followed by smaller consumption. The same would in a great measure apply to the other articles of manufacture, so that all round production would be curtailed, and in proportion to the diminished production, prices would have to be continually advanced to meet the extra cost of manufacture.

Time must prove whether the formation of the Union will be for the ultimate benefit of the combined works themselves, but the manufacturers cannot be blamed for attempting to make the best of their position. Among interested circles the prospects of the successful formation of the Union are considered so good that the prices of bleaching-powder and caustic soda have risen rapidly during the last few days, and all the manufacturers have agreed not to accept any contracts extending beyond September 30 until the Union question is definitely settled.

THE "PAIN-KILLER" TRADE-MARK.

CLOSE on the heels of the "Fruit Salt" dispute the "Pain-killer" law-suit has occupied the attention of the House of Lords. Between them our comprehension of the law of trade-marks ought to have been considerably advanced, but we question whether the trading community has gathered much information from the two cases combined. This trade-mark legislation has been splendid business for lawyers; contests in regard to real or alleged infringements of trade-titles are just as numerous as ever they were under the common law, while new opportunities for litigation have been furnished in abundance by doubtful expressions in the statute. In the absence of a trade-opponent, with whom a law-suit has something substantial about it, the Comptroller of Trade-marks serves admirably as a lay-figure to expend superfluous contentiousness upon. Under the old system conflict only resulted when infringement was actually attempted; now the fight begins when it is merely contemplated and evidenced by the application to register a certain mark.

We showed, a fortnight since, how doubtful the law-lords

had left the "Fruit Salt" question. Mr. Eno was deprived of the exclusive right to have these words on the register, but the majority of the lords came to the conclusion that if Mr. Dunn used them as part of the title of a baking-powder his article might mislead, and, therefore, they would not grant him registration of a trade-mark containing those words. Without those words the trade-mark would have been registrable. With a tender thought for those below them on the legal ladder, the judges carefully left it to be decided by another action (if anyone should care to risk one) whether the words could be used by anyone besides Mr. Eno on a baking-powder label. They declined to commit themselves further than to say they might be used as indicative of an umbrella.

Now comes the "Pain-killer" case. Messrs. Perry Davis & Son are not to have these two words simply on the Trade-Mark Register as exclusively their own. But that is all that the judgment in the House of Lords last week actually decides. To assume from it, as some people have done, that anyone may now make a "pain-killer" is a dangerous inference. To apply to this case the arguments used in regard to "fruit salt" we may conclude that, though Perry Davis & Son may not have the exclusive right to the words simply on the register, no one else might register them in any combination for any sort of article or preparation which can by any stretch of imagination be supposed to be connected with the compound so-named. This does not say that no one may make a "fruit salt" or a "pain-killer" except Mr. Eno or Messrs. Perry Davis & Son respectively. All we say is that the judgments do not conclusively establish that they may. It is quite certain that those gentlemen would both have a remedy at common law against anyone making a colourable imitation of their products; and it would be, we presume, a question for evidence whether the use of the title alone was so far calculated to deceive purchasers as to justify an injunction.

LAWYERS ON PHARMACEUTICAL LAW.

WE have received from Messrs. Bailliere, Tindall & Cox an elegantly-produced, gilt-edged, and morocco-bound little volume, which professes to be a manual of "Medical Law for Medical Men." The authors are Percy Clarke, LL.B., solicitor, and Charles Meymott Tidy, M.B., F.C.S. This latter gentleman is described on the title-page as "of Lincoln's Inn, barrister-at-law; professor of chemistry and of legal medicine at the London Hospital; medical officer of health for Islington; one of the official analysts to the Home Office, &c." This combination of talent would seem to be ideally perfect for the purpose of preparing such a manual as the one indicated in the title; but the result of the labours of these professionally perfect authors is a piece of work which—so far as the sections which concern pharmacy are evidence—would discredit a chemist's apprentice. It is astonishing how anyone, lawyer or layman, with the Acts of Parliament before him, could have crowded so many blunders into so small a space. It is our duty to justify this statement.

In the chapter entitled "Chemists" the authors tell us that they mean by "chemist" "a person who is qualified either as a pharmaceutical chemist, pharmacist, pharmacist, chemist, or chemist and druggist, to supply drugs, chemicals, medicines and poisons, and registered as such for England or Scotland under the Pharmacy Act, 1852, or for Ireland under the Pharmacy Act, 1875." The authors evidently think that qualification is necessary for any person who would supply drugs, chemicals, and medicines; but, except when these are poisons, this is not the case.

Chemists and druggists are registered under the Pharmacy Act, 1868, not under that of 1852. In the next paragraph we read of the Pharmacy Act, 1858, which is unknown to us; and we also learn that the Pharmaceutical Council is "elected by the members and associates of the Society, who are themselves respectively elected from the pharmaceutical chemists and chemists and druggists." The associates of the Society have no voice in the election of the Council, and the statement that the members and associates are elected from the pharmaceutical chemists and chemists and druggists, though strictly accurate, is expressed in a misleading manner.

In the next paragraph, which applies to the Pharmaceutical Society of Ireland, we are told that "chemists and druggists are only eligible as associates with power of voting at meetings," the writer evidently not knowing that chemists and druggists in Ireland have not at present any rights whatever in connection with the Pharmaceutical Society of Ireland. From the same chapter we learn that "the Pharmaceutical Societies are not bound to examine women"; that persons when entered on the "Chemists' Register" of Great Britain or Ireland, as the case may be, are entitled "to practise according to their qualifications throughout the British dominions"; that "assistants of chemists in active practice as such for three years prior to 3rd (*sic*) December, 1868," are entitled to registration; that notification of changes of address are to be sent "to the chemists' registrar, who originally registered the person so moving"; and that all chemists are exempt from serving on juries. All of these statements are incorrect.

Under the chapter headed "Poisons" the schedule of poisons given is incomplete, and it is inaccurately stated that "the list may be extended by the Pharmaceutical Society of Great Britain and the Royal College of Physicians of Ireland as to their respective districts." Moreover, the authors have not comprehended the distinctive regulations made in the statute in regard to the sale of poisons in Part 1 and of those in Part 2 of the schedule.

In the paragraphs in other parts of the book where the sale of poisons, or pharmacy generally, is alluded to, there is a fair probability that the law is either incorrectly or ambiguously stated. We are informed, for instance, that the penalty on unregistered persons selling poisons or medicines containing poisons does not extend to vendors of patent medicines (page 123). It would appear from this, therefore, that vendors of patent medicines may sell all poisons with impunity. The authors either misunderstand the Act or fail to convey their meaning with precision. On the next page it is stated that the Pharmaceutical Societies only are authorised to prosecute in regard to "any offence against the Pharmacy Act, such as irregular or improper sale of poisons," which are just the cases which anyone may prosecute. On page 56, in dealing with "medical men and their public relations," it is stated that "drugs and medicines have to be wholesome and pure, and any person keeping open shop for the sale of such must permit the inspector of the Pharmaceutical Society to enter and take samples." We are at a loss to imagine how this piece of information could have been conceived.

We have not examined very closely the chapters on medical law. It may be expected that these are more trustworthy than the sections in which pharmaceutical legislation is professedly interpreted, but chemists will hardly be disposed to rely on any statement which this work contains without confirmation from some more careful authority. The authors profess to "popularly explain" their subject; they seem to think that popularity is attained by mere laxity of expression. Referring to the General Medical Council, they tell us, for instance, on page 13, that

"the present President and the other members are shown in Appendix." We find they are simply named. On page 15 they give a list of persons who are entitled to be registered and to practise. It is only by chance that the reader finds, later on, that persons holding certain foreign and Colonial diplomas are also entitled to registration. On page 55 they say, "A medical man qualified to supply medicines may sell spirits, as incidental to, and compounded with, medicines, without an Excise licence." This is either wrong in law or very clumsy in English. On page 56 we read, "Should the impurity or inefficacy of the drugs or medicines result in damage to a patient, he has his private remedy." If it is meant that the patient may punch the practitioner's head, the English is correct; but it is incorrect if a law-suit be inferred. Further on we find the word "stores" used where limited companies are evidently meant, allusion to "the English Pharmacy Act," and similar "anachronisms," as the preface mellifluously describes the authors' inaccuracies. It will be unfortunate if a work so disfigured by errors should get into circulation, and we should hope the publishers will see fit to withdraw at least the present edition.

COMMENTARY.

THE GERMAN DRUG TRADE.—The German commercial statistics for 1889 have just been published, and show the value of all imports into the country to have been 4,087 millions of marks, that of the exports being 3,256 millions. Compared with the previous year, these figures show that the imports have increased by 651 million marks, or nearly 16 per cent., while the exports have diminished by 3 per cent. (96 million marks). Drugs and chemicals show a very marked increase, both in imports and exports, on the preceding year, the following being the values, in thousands of marks:—

—	Imports		Exports	
	1889	1888	1889	1888
Raw materials for chemical industry	74,819	65,241	8,356	7,707
Drugs for medicine and perfumery ..	17,946	15,594	6,845	5,760
Raw dyestuffs	13,908	13,299	5,439	5,111
Simple chemicals, bases acids and salts	25,805	27,745	63,569	60,328
Ether, essential oils, medicaments, and perfumeries	10,385	9,913	29,737	27,241
Paints, varnishes, lacquers, and glues	10,875	9,747	9,632	9,505
Pitch, tar, and tar distillates	19,452	16,713	10,487	8,910

The largest increase in value among the imports is shown by coal-tar oils, carbolic and picric acids, carbonate of ammonia, camphor and dycwood extracts, and under exports by soda and potash salts, albumen, carbolic acid. The principal decreases are, in exports—cinchona salts and quinine preparations, glycerine, iodides, salicylates, tartar materials, aniline dyes, and other coal-tar dyes; in the imports—bichromates of soda and potash, gums, cinchona, indigo, iodine, and phosphorus. Camphor was imported to the extent of 1,414,000 marks, while the exports were 921,000 marks. The values of the exports of some of the principal medicinal preparations shipped from Germany last year were:—

Marks		Marks	
Salicylates	2,613,000	Cinchona salts and prepa-	
Iodine	315,000	rations	6,834,000
Iodides	2,367,000	Alkaloids and their	
Alcoholic tinctures ..	623,000	salts	3,720,000
Essential oils	4,050,000	Toilet soaps	2,030,000

PERMANENT HYPODERMIC INJECTIONS.

By H. W. JONES.

IN THE CHEMIST AND DRUGGIST of June 21, I gave the results of a short study of various agents which have been suggested from time to time for use as preservatives in hypodermic injections; and under the same heading Mr. H. Helbing, in the number of July 5, whilst agreeing with me that sterilising the water for such solutions is but one step in the direction of permanency, deprecates the use of preservatives altogether, advocates a process of sterilisation, and affirms that "permanent hypodermic injections—or at least that of morphia—may be kept unchanged for any length of time if the principle of sterilisation be thoroughly applied at every step in the preparation of the liquid." Now, whilst all this is quite true, under certain conditions, whether the process be applied to an alkaloidal solution or an infusion of hay, the fact remains that even the most careful attention to sterilisation will not ensure the solution remaining sterile if it be exposed to unfiltered air. The hay infusion would change sooner on air-exposure than any alkaloid I know; but it still shows that if the conditions of sterility are broken, certain results are apt to follow. The only case quoted by Mr. Helbing is that of hydrochloride of morphine which has been shown by M. Constantine Paul ("L'Union Pharmaceutique," xiv. 48; "Year Book Pharmacy," 1873) to be a tolerably stable salt and much less liable to change than bisulphate of quinine. The complete sterilisation of solutions, filter-papers, funnels, measures and stock-bottles, though difficult to a busy pharmacist, is a comparatively easy matter in a well-appointed laboratory, and if the process afforded an absolute guarantee that sterilised solutions would remain so under the varying conditions met with, *and after they had left the maker's hands*, it would be worth any amount of trouble to accomplish. Until this point is proved, I see no reason why preservative agents should be discarded. Hypodermic medication has now extended beyond the employment of the three official injections, and there is no reason why the "extra" solutions at least should not be made as permanent as possible. The solution of hydrochloride of morphine quoted by Mr. Helbing could not be sold as "B.P.," any more than a solution containing an addition in the form of chloroform or similar agent; and according to my experience a medical man does not object to a suitable addition being made: I know of cases where it has been requested to add something to the Pharmacopœia solution of morphia "to make it keep." A good example of how little a medical man cares whether the medicament is associated with a small amount of an extraneous substance or not, is afforded by the frequent use of the various compressed pellets which as a rule have sodium sulphate for a base; and I once asked a surgeon if he objected to give a patient along with a 5-minim dose of the official morphine injection an amount of chloroform equivalent to $\frac{1}{40}$ th of a minim. The question was met with a laugh, and I got the answer "I don't mind if you can guarantee the solution to keep."

In my short notes on the subject I merely gave my experience in reference to certain preservatives, and argued against the sufficiency of merely "boiled water," although advocating its use along with preservatives, the addition of which has received a good deal of attention, especially since carbolic acid was employed for the purpose by Dr. Squibb, in 1873. In reference to sterilisation, I may draw attention to the very complete method given by R. M. Girling in 1886, an English abstract of which appears in the "Year Book of Pharmacy" for 1887; but whether this process, or the similar one of Mr. Helbing, will answer all requirements remains to be seen; and it is a question for actual trial rather than for argument. I for one doubt if sterilising alone will answer completely under the conditions met with in actual use—such as, for instance, the transference of portions of a stock solution, from time to time to the smaller tube-bottles of a surgeon's case, which are not always kept under conditions of "scientific cleanliness." Further, the process of sterilising involves boiling the solutions, at least "for about ten minutes," and it may be asked, Is it advisable to do this with such substances as ergotinine, sclerotic acid, or even aconitine, hyoscyamine, or physostigmine?

Scientific Notes :

*On Chemistry, Pharmacy, Botany, Materia Medica¹ &c
Original, Selected, and Translated.*

VAPOUR DENSITIES.

E. P. PERMAN, B.Sc., has contributed a paper to the Royal Society on the vapour densities of certain substances. Bromine, according to Professor J. J. Thomson, dissociates on continued heating at a low pressure, but it does not, says Mr. Perman, at least up to 280° C., and it has no tendency to form molecules with more than two atoms. Iodine vapour has a density of 126.9, and in the liquid state its formula is I₂. The vapour density of sulphuric anhydride indicated that its formula is SO₃, but that of aqueous hydrochloric acid showed it to be a mixture, not a compound, of molecules of HCl and H₂O.

ESTIMATION OF WATER IN CARBOLIC ACID.

MR. J. A. WILSON gives in the *Chemical News* a comparison of three methods of estimating the percentage of water in a sample of crude carboic acid. No. 1 was ascertained by distillation; No. 2, by agitating 1 vol. with 3 vols. saturated salt solution; No. 3, by agitating with equal vols. of 48-50 per cent. sulphuric acid. The following percentages were obtained:—

	No. 1	No. 2	No. 3
Water ..	8.6	8.00	8.25

The distillation process gives the true percentage of water, if the distillate be not observed too late; next to this, the test with vitriol.

INDEFINITE ACTIVE PRINCIPLES.

Professor P. C. Plügge has pointed out in a Dutch contemporary that we have by no means arrived at that degree of definiteness in regard to alkaloids which is desirable for exact therapeutics. He mentions several cases—for example, hydrochlorate of pilocarpine often contains jaborine, and, as these two principles are antagonistic, some pilocarpine hydrochlorate in the market is entirely inert. It is difficult to detect small quantities of jaborine chemically, but it is possible by physiological experiment, for the heart of a frog, paralysed with muscarine, will beat again if injected with a few drops of a pilocarpine salt which contains jaborine. Physostigmine and calabarine are both present in the calabar bean. Calabarine does not contract the pupil. Physostigmine does, and is often prescribed by physicians in cases in which the action of calabarine, similar to strychnine, is very undesirable. It may, moreover, be pointed out that as calabarine is insoluble in ether, so that an ethereal extract should contain only the physostigmine, and it would seem that the Pharmacopœias should aim in this direction.

[A good deal has been said about calabarine on the lines of the foregoing, but it is all based on text-book statements. We should like to know if anyone but the "discoverers" of calabarine have ever seen it.—ED. C. & D.]

CHROMIC ACID AS AN ALKALOIDAL REAGENT.

IN a recent issue of the *Pharmaceutische Zeitung*, K. Mezger gives particulars of the use of a 5-per-cent. solution of chromic acid in testing alkaloids, especially cocaine. If to a solution of $\frac{1}{2}$ gr. of cocaine hydrochlorate in 80 minims of water 5 drops of the chromic acid solution be added drop by drop, a distinct precipitate forms, which redissolves without delay; but the addition of 16 minims of hydrochloric acid throws down a dark orange coloured precipitate of cocaine chromate. It is noteworthy that ecgonine hydrochlorate solution remains clear with chromic acid, and also remains clear with 9.2-per-cent. solution of potassium chromate; so does cocaine. On the other hand, quinine, quinidine, and cinchonine salts give a yellow precipitate with the chromate, as also with the chromic acid solution, but it is noticeable that in the latter case the precipitate dissolves in hydrochloric acid and crystallises out again. Cinchonidine also affords the same, but with potassium chromate only turbidity, and finally crystallisation. With apomorphine chromic acid gives a red-brown precipitate, which turns green in a short time;

the addition of hydrochloric acid changes it to dirty brown; brucine gives a yellow precipitate, hydrochloric acid changing it to orange-yellow, the solution itself being red; strychnine gives a yellow crystalline precipitate on standing, which is not affected by the acid; veratrine gives a yellow precipitate. Atropine sulphates and the hydrochlorides of caffeine, pilocarpine, and codeine give no reactions with these reagents. Morphine hydrochloride gives a green coloration with all three reagents owing to the reduction of the chromic acid. The reactions are sufficiently distinctive to warrant careful trial with, and Major students may find them to be useful as group tests.

ALKALOIDS IN THE GERMINATION OF SEEDS.

THE seeds of *Sterculia acuminata* contained 2.37 per cent. of caffeine. After the first year, the cotyledons, which remain attached to the stalk, contained only 1.072, after the second year 0.70, and after the third year 0.21. As the caffeine disappears, chlorophyll and potassium nitrate are formed in the cotyledon, and hence its disappearance is due to a kind of nitrification.

In order to investigate the behaviour of pyridic alkaloids, seeds of *Strychnos nux-vomica* and *Datura stramonium* were used. After two to three months, according to the size of the seeds, all the alkaloids had disappeared and been converted into more assimilable products, the change taking place under the influence of the embryo; for if the germs are removed from the seeds, the latter remain unaltered in moist earth for a long time.

In *Physostigma venenosum* the eserine undergoes transformation in the cotyledons themselves during the germinative movements; for whether the seeds are sown with or without their gemmule the eserine disappears, and it follows that the cotyledons contain substances which produce this change.

Whether the seeds have an endosperm or not, the disappearance of the alkaloids becomes complete, and they pass into the young plant. The exact changes which they undergo are not yet known, but they are undoubtedly true reserves of food for the young plants, which, however, must undergo complete alteration before they can be assimilated. Reveil's observations that plants watered with solutions of their own alkaloids always died, show that they cannot be absorbed directly with impunity.—E. Heckel in *Compt. Rend. and Jour. Chem. Soc.*

WINTER'S BARK.

The true winter's bark is an *avis rara* of British commerce. It is obtained from a tree (*Drymis winteri*; N.O. Magnoliaceæ) which grows in the Antarctic regions (Straits of Magellan) and is noted in materia medica books chiefly because, at some time or another—certainly many years ago—it was used as a substitute for the official *Canella alba*, this bark having been favoured with many adulterations and substitutions. It is something like the bark of *Cinnamodendron corticosum* (N.O. Canellaceæ), as also that of canella, but differs from both in the structure as exhibited in the transverse section. The materia medica books do not give much information concerning the chemistry of this bark, except that it contains very little starch, about 9 per cent. of tannin, an unknown quantity of volatile oil, and about 10 per cent. of a pungent resin. Quite recently two Italian chemists, Messrs. Arata and Canzoneri, have subjected the bark to an examination, and find that the sun-dried bark (presumably the entire bark) yielded—

Moisture ..	13.7 per cent.
Ether soluble matters ..	3.8 "
Alcohol ..	6.40 "
Water (soluble) ..	14.0 "
Ligneous matter ..	49.0 "
Mineral matter ..	3.3 "

Of organic acids, citric acid was absent. A volatile oil was obtained from the bark by steam distillation, the yield being but small, 0.65 per cent., the essential constituent of which they have named winterene (C₁₅H₂₁), which is colourless, readily oxidised by exposure to air, having a boiling-point of 260°-285° C. and a s.g. of 0.934. It is noteworthy that no tannin appears to have been found, although the description given of the bark acted upon corresponds with descriptions of authentic specimens of the bark.

HOW TURPENTINE IS COLLECTED AND MANUFACTURED.

MR. R. G. DUNWOODY, Ph. G. of the Chemical Laboratory of the Philadelphia College of Pharmacy, gives, in the *American Journal of Pharmacy*, an interesting account of the collection of the oleo-resin of *Pinus palustris*, which is indigenous to the Southern States, from Virginia to the Gulf of Mexico. For the purpose of collection boxes, as they are called by the manufacturers, are cut into the trees from the first of December until the middle of March; usually from one to four are cut in each tree according to its size. The boxes are made twelve inches above the ground, so that the lower lip is five inches, and the arched upper lip eight to ten inches above the bottom of the box, extending into the tree a short distance; they usually hold from half to one gallon. The tree is then left from two to three days, when the bark is removed about three to four or sometimes ten feet above the boxes, and the tree is scraped or hacked triangularly. The instrument used for scraping is made of iron, the shape of the letter L, with a ball attached to the long arm, the operator taking hold just above the ball, the weight of which aids in scraping.

The oleoresin begins to run about the first of March, and flows best during June, July, and August, decreasing as cool weather begins to approach. The trees have to be slightly scraped about every ten to fifteen days to remove the oleoresin which has become solidified, preventing the flow.

Boxes are dipped every eight to ten days with a peculiarly constructed instrument called a *turpentine dipper*. The oleoresin is first put in buckets and then transferred to barrels on the waggon, their heads being removed until filled, when they are wedged on tightly; the barrels are then carried to the place of distillation.

A still made of copper is set into a brick furnace, which is from ten to fifteen feet in length, five to six feet in width, and about eight feet in height. The still usually holds between fifteen and twenty barrels of the "crude." With the "crude" a little water is added, then the still is warmed so as to make the chips and straw rise to the surface to be skimmed off; a little more water is now added and the top luted on and connected with a large condensing worm placed in a large tank kept filled with cold water. When all the joints have been made tight, heat is applied strongly; the water having a lower boiling-point than the oil begins to come over first, bringing over a small quantity of oil, which is gradually increased, and is condensed and run into a barrel previously placed at the end of the condensing worm. Water has to be added during distillation to aid the oil in coming over, also to keep the mass from becoming too thick and charring. Some manufacturers distil the "crude" without any water, only what is dipped up with the "crude," but there is danger in burning the residue.

In the receiving barrel the oil, having a lighter specific gravity, floats on top of the water and is dipped off. This constitutes the commercial spirits of turpentine. The residue in the still, after all of the water and oil has stopped coming over, is resin, which is run out through a faucet at the side of the still, having three strainers attached to it, into a long trough communicating with barrels, which hold between three and four hundred pounds. This constitutes the commercial *resin*.

The first exudation of the tree is the best, and is distinguished by the name *virgin dip*, the resin being of a light amber colour, transparent, brittle, and melting at 75° C. Resin which is translucent contains too much oil, and is very brittle.

The colour of the resin becomes darker after each exudation of the tree, until it finally becomes almost black, yielding little oil and decreasing in value a great deal.

For many years North and South Carolina furnished the above products; but of late years Georgia and some of the Gulf States have been yielding a great deal.

Of recent years there has been a suspicion that oil of turpentine is adulterated with petroleum, and to determine this the author submitted to test a dozen samples, eight of which were "commercial," three obtained direct from manufacturers, and one was distilled by himself. The specific

gravity of the commercial specimens under normal conditions varied from 0.856 to 0.873, the average being 0.860, whereas the specimen distilled by the author was 0.869, and the average of the three obtained from the manufacturers was 0.871. The initial boiling-point of the last-named specimens was 156°–157° C., and the final 165°–167° C., whereas the commercial specimens varied from 155° C., to begin with, up to 165°–170° C. at the end. The polarimetric results before and after distillation were far from being uniform, as may be judged from the fact that the manufacturers' oils gave 3.85, 9.45, and 16.20 before distillation, while the commercial specimens gave from 2.60 and 14.45 up to 36.64, the rotation in all cases being to the right. These results do not give us a satisfactory basis for the detection of petroleum, but it will be seen that any turpentine having a less specific gravity at 15° C. than 0.865 may be looked upon with suspicion. It is also obvious that the boiling-points given by the British Pharmacopœia (*initial* 160° C., *final* 180° C.) would exclude the oil of turpentine derived from *Pinus palustris*.

Mr. A. H. Allen, in the second volume of his "Commercial Organic Analysis," states that the following test is of value in the detection of petroleum:—Three volumes of turpentine oil with one volume of castor oil will produce a homogeneous mixture, while with petroleum the liquid separates into two layers nearly equal in volume. On trying a mixture made of different proportions of petroleum (sp. gr. 0.786; boiling between 150° and 160° C., known as head light oil), Mr. Dunwoody found that as much as 65 per cent. of petroleum could be mixed without detecting it by the test. But he found that glacial acetic acid sufficed to detect the adulteration, and mixtures of petroleum and turpentine oil in different proportions were found to require different amounts of the above acid for making a clear solution, as follows:—

Petroleum ..	1	2	3	4	5	7	8 cc.
Turpentine oil ..	9	8	7	6	5	3	2 "
Glacial acid ..	40	60	80	110	150	230	270 "

These factors should form the basis for the detection of adulteration.

Mr. W. M. Burton, of Cleveland, gives the following method for the estimation of petroleum in turpentine. The method is based upon the fact that petroleum is only slightly affected by fuming nitric acid in the cold, whereas turpentine is readily oxidised to various acids of the fatty and aromatic series, which are soluble in hot water. A balloon flask of 750 c.c. capacity is fitted with a two-hole cork stopper. Through one hole is inserted the tube of a glass stoppered drop-funnel having a capacity of 100 c.c. The flask is also connected with an inverted condenser. About 300 c.c. of nitric acid of sp. gr. 1.400 is placed in the flask, and 100 c.c. of the turpentine to be tested are measured into the drop-funnel. The flask is surrounded by cold water, and the turpentine is allowed to drop slowly into the nitric acid. As each drop strikes the acid violent action takes place, with evolution of red fumes. It is well to shake the flask occasionally during the operation. When the turpentine has all passed into the flask, the apparatus is allowed to stand until all action is over. The contents of the flask are transferred to a large separating-funnel and treated with successive portions of hot water. In this way all the products resulting from the action of the acid on the terpenes are removed, while any petroleum paraffins remain insoluble in water, and can readily be separated and measured. The result gives the percentage of petroleum, but is about a unit lower than the truth.

THE "ART OF DISPENSING" IN U.S.A.—The *Pharmaceutical Record* of New York states that they have received from a physician and pharmacist in Kansas the following unsolicited commendation of the *Art of Dispensing*: "Although I have been in the drug business for over thirty years," says the writer, "I find that there are a great many things that I do not know about pharmacy. This book gives a number of very valuable hints on dispensing. With a desire to increase my knowledge, this book was very acceptable. I have a large pharmaceutical library, and am anxious to include in it every book published pertaining to pharmacy."

Medical Cleanings.

COCAINE AND MORPHINE.

GEORGE H. R. DABBS states (*Brit. Med. Journ.*) that the morning sickness which complicates the continuous use of hypodermic injections of morphine can be prevented by combining $\frac{1}{3}$ grain of cocaine with the morphine solution: we presume that the doctor means with each dose of the morphine.

IMPURE SALICYLIC ACID.

DR. A. G. AULD gives particulars in the *Lancet* of two cases which he treated with salicylate of sodium. In both cases great giddiness was produced, and even delirium when the dosage was carried a certain length. He infers that the salicylate was impure, the symptoms being the same as were exhibited by Professor Charteris's rabbits.

DRYNESS OF THE TONGUE.

DR. J. G. BLACKMAN, of Portsmouth, recommends pilocarpine gelatine lamels ($\frac{1}{10}$ th and $\frac{1}{20}$ th grain) for this disorder. A lamel quickly establishes a moderate flow of saliva, which persists for at least twenty-four hours, and is unaccompanied by excessive perspiration. The altered state of the mouth is often described by the patient as being delightful.

LAXATIVE ELECTUARY FOR CHILDREN.

In the habitual constipation of children Dr. Ferrand recommends the following:—

	Parts
Manna	25
Calcined magnesia	50
Flowers of sulphur	50
Honey	120

Make into an electuary.

One or two teaspoonfuls to be given in a cup of cold milk.

ACTION OF POTASSIUM FERROCYANIDE.

Two Lille investigators have studied the physiological action of this salt upon lower animals, and have ascertained that it may be administered in doses equivalent to two thousandths of the animal's weight without producing serious toxic effects. In the dog it produces vomiting and intestinal disorders, but does not act as a diuretic; in the guinea-pig, on the other hand, which is one of the animals which do not vomit, even minute doses produce diuresis for three hours afterwards. The temperature, circulation, respiration, and nervous system are not affected. The ferrocyanide is changed in the system into ferricyanide, and is eliminated as such in the urine.

PREPARATIONS OF DIGITALIS.

CONTINENTAL physicians have recently been discussing the efficacy of preparations of digitalis, and one of them focussed the general ideas when he said that he preferred the cold infusion, on account of its supposed greater diuretic activity. It is prepared by taking from 25 to 40 centigrammes [4 to 6 grains] of powdered digitalis leaves and adding 300 grammes [8 oz.] of cold water. This should be allowed to macerate for twelve hours, and should then be filtered. It may be sweetened with syrup. When it is desired to obtain a powerful diuretic action, it is preferable to administer this quantity in two or three doses. There is nothing very new about this, but it is well to print it as a reminder that preparations containing alcohol are often inert.

THE EXCRETIONS OF BALSAMS.

DR. RALPH STOCKMAN has completed in the Edinburgh College of Physicians' laboratory an investigation on the excretion of balsams in the urine. The investigation has been carried out under the auspices of the British Medical Association. It has hitherto been doubtful whether the balsams give rise to albuminuria or not, and this is the point which Dr. Stockman specially set himself to settle, with the result that he found in the case of Peruvian balsam, balsam of tolu, storax, and benzoin that, after taking them in large doses, the urine contained a substance which gave a precipitate with nitric acid, as albumen does; but in all cases this precipitate was soluble in alcohol and in excess of nitric acid, which albumen is not. There seems to be no doubt that the precipitate is resin, but it was not obtainable in sufficiently large quantity for thorough examination.

ATROPINE POISONING.

A MEDICAL STUDENT in India lately took four grains of atropine in mistake for antipyrin, and soon became unconscious. His condition was extremely dangerous and apparently hopeless, although the contents of the stomach had been removed, and all approved methods for restoration were tried. At last Dr. Edward Lawrie, the medical attendant, injected one grain of morphine hypodermically, and later another grain, but without any apparent result. After seven hours' of artificial respiration Dr. Lawrie determined to inject a third grain of morphine, and this brought about "the turn," for in an hour after the patient was restored to consciousness. This case proves that poisonous doses of morphine do act as an antidote in cases of poisoning by atropine.

THIOL.

THIS odourless substitute for ichthyol appears to be gaining ground in Germany, if we may judge from the literature on the subject. In a long paper recently communicated to the *Deutsch. Medizin. Wochensft.*, Dr. A. Bidder gives particulars of fifty-five different cases of skin-affections of various kinds in which he has used thiol with success, and Professor Ernst Schwimmer, of Budapest, speaks highly, in *Therapeutische Monatshefte*, of its efficacy in the treatment of acne and similar affections, for which he uses the thiol mixed with three times its weight of water, the solution being painted on the parts twice or three times a day. In some cases of erythema it is advantageous to use the thiol in more concentrated form—viz., in powder. In eczema rubrum the application of an ointment composed of thiol 1 part, and lard 10 parts, quickly gave relief, and it seemed to be better, on the whole, than ichthyol. Thiol is sent into the market in three forms—viz., liquid, powder, and scales.

THE CHEMISTRY OF GOUT.

SIR WILLIAM ROBERTS, in papers communicated to the Royal Medical and Chirurgical Society, has pointed out that in the normal state uric acid exists in the blood and urine exclusively as quadrurates, and is at once removed unchanged by the kidneys. But in the gouty state, either from defective kidney action or some other cause, the quadrurate lingers unduly in the blood, and as it circulates in a medium which is rich in sodium carbonate, it is gradually transformed into sodium biurate, which is almost insoluble in blood-serum, and is, probably, for that reason, difficult of removal by the kidneys. Under these new conditions sodium biurate accumulates more and more in the blood, and, when the accumulation has reached a certain point, is precipitated in the crystalline form in the joints and elsewhere, thereby determining the occurrence of a fit of the gout. As to the action of drugs in gout, Sir W. Roberts is of the opinion that their action is strongly influenced by the chemistry of each individual. As to treatment, he believes that, if an attack is imminent, a patient ought not to take mineral waters containing soda and lime, except very sparingly at first. Dr. Herman Weher has for many years warned his patients on this point. He thinks it possible that most of the good done at mineral springs is due to the water taken, and not to the salts contained in it. Dr. Mortimer Granville, writing to the *Lancet* in regard to this matter, points out that it is a clear and probably accurate exposition of the rationale of "the iodine treatment," for which he has been so severely held responsible. His contention has been, and still is, that the administration of alkalies is not justifiable on chemical grounds except in very special states of the system. As regards the iodine treatment Dr. Granville states that, when the blood becomes strongly impregnated with iodine, a copious outpouring of uric acid generally occurs, the iodine passing out in the urine as iodide of sodium. It matters little how the iodine is given if only there be no sodium or similar base given with it, and it is for that reason that he has given preference to the di-iodo-hydriodide of caffeine, although tincture of iodine, iodoform, and hydriodic acid are also useful.

THE UNITED STATES CUSTOMS TARIFF.

THE measure known as the "McKinley Tariff Bill," which proposes to reform and "amend" the United States Customs tariff, is still occupying the attention of the American Legislature. It has passed the House of Representatives, and was thereupon referred to a committee of the Senate, which has now completed its labours, and made many important alterations, generally in the direction of increased duties, in the proposals emanating from the lower House. The Bill is now down for discussion before the full Senate, but its prospects of passing into law, at any rate during the present session, are by no means bright, while the discussion upon it is certain to be very prolonged. The following figures are taken from a table published by the *Oil, Paint, and Drug Reporter*. They show, in the first column, the present duties; in the next, those proposed under the McKinley Bill; and, in the third, the amendments suggested by the Senate Committee, so far as applies to articles pertaining to the drug trade. It is claimed that the schedules as amended differ in no important particular from a Bill known as the Senate Bill, and reported to the Senate by the Finance Committee in 1888. That Bill was a very unpopular one, especially among the commercial and manufacturing interests of the country, and came to nothing. It is, therefore, thought that the McKinley Bill will meet with a similar fate.

Articles	Present Tariff	McKinley Bill	Finance Com. Changes
Acid, acetic	2c. to 10c. lb.	1½c. to 4c. lb.	—
" chromic	15c. lb.	6c. lb.	—
" muriatic	free	1c. "	free
" sulphuric	1c. "	1c. "	free
" tannic	\$1 lb.	\$1 "	50c. lb.
Ammonia, muriatic ..	10 p.c.	3c. "	—
" carbamate	10 "	1½c. "	—
" sulphate	20 "	1½c. "	—
Acetate of lead, brown	4c. lb.	2c. "	3½c. lb.
Acetate of lead, white	6c. "	3c. "	5½c. lb.
Aniline oil	20 p.c.	free	—
Alcoholic perfumery ..	\$2 gal. and 50 p.c.	\$2 gal. and 50 p.c.	—
Alcohol (spirits)	\$1 to \$2 gal.	\$2 "	—
" compound	\$2 gal. and 25 p.c.	\$2 "	—
Anodyne, Hoffman's ..	3½c. lb.	40 p.c.	—
Antimony, regulus ..	10 p.c.	3c. lb.	—
Beeswax	20 "	free	—
Barytes	10 "	\$2 ton	\$1 ton
" manufac- tured	1c. lb.	\$7 "	\$5 "
Baca (Berlin, Prussian, Chinese) ..	20 to 25 p.c.	6c. lb.	25 p.c.
Blanc fixe	25 p.c.	3c. "	—
Blue vitriol	3c. lb.	2c. "	—
Bronze powder	15 p.c.	15c. "	15 p.c.
" metal in leaf ..	10 "	10c. pkg.	—
Bladders	25 "	free	—
Bristles	16c. lb.	—	20 p.c.
Brushes	30 p.c.	40 p.c.	35 "
Campbor, refined	5c. lb.	4c. lb.	—
Castor beans	50c. bush.	32c. bush.	—
" oil	80c. gal.	50c. gal.	—
Chloride of calcium ..	free	1c. lb.	—
Cottonseed oil	25c. gal.	10c. gal.	—
Croton oil	50c. lb.	30c. lb.	—
Cobalt, oxide of	20 p.c.	30c. "	—
Chloroform	50c. lb.	40c. "	—
Chrome colours	25 p.c.	4½c. "	25 p.c.
Cocoa, manufactured ..	2c. lb.	3c. "	2c. lb.
" butter	—	3½c. "	—
Cork and cork bark ..	25 p.c.	10c. "	5c. lb.
" manufactured ..	25 "	15c. "	7½c. lb.
Cod-liver oil	25 "	15c. gal.	—
Degras oil	25 "	free	1c. lb.
Dextrine	1c. lb.	2c. lb.	1c. "
Dye woods	10 p.c.	free	—
" extracts (unenumerated) ..	10 "	1c. lb.	3c. lb.
Dandelion root	2c. lb.	1½c. "	—
Ether, nitrous, spirit ..	30c. "	2c. "	—
" sulphuric	50c. "	40c. "	—
Finishing-powder	20 p.c.	free	—
Fish oils, not enumerated ..	25 "	8c. gal.	—
Glue	20 "	1½c. lb. to 30 p.c.	—
Gelatine	30 "	1½c. "	—
Glycerine, crude	2c. lb.	2c. "	1½ c. lb.
" refined	5c. "	4c. "	—
Glucose	20 p.c.	4c. "	—

Articles	Present Tariff	McKinley Bill	Finance Com. Changes
Gold leaf	\$1.50 pkg.	\$2 pkg.	—
Grease	10 p.c.	free	—
Gunpowder	6c. to 10c. lb.	5c. to 8c. lb.	—
Gum substitutes	1c. lb.	2c. lb.	1c. lb.
Gypsum	free	free	\$1 ton
Hops	8c. lb.	15c. lb.	—
Hemlock extract	20 p.c.	1c. "	¾c. lb.
Hempseed	1c. lb.	—	—
Herring oil	25 p.c.	8c. gal.	—
Isinglass	25 "	1½c. lb. to 50 p.c.	—
Indigo	10 "	3c. "	—
" (carmine)	10 "	10c. "	—
Iodine	40c. lb.	30c. "	—
Iodoform	\$2 "	\$1.50 lb.	—
Liquorice paste	7½c. "	6c. lb.	—
" juice	3c. "	6c. "	5c. lb.
Linseed	20c. bush.	30c. bush.	25c. bush.
" oil	25c. gal.	30c. gal.	27c. gal.
Logwood extract	10 p.c.	1c. lb.	¾c. lb.
Lime	10 "	6c. cwt.	—
Magnesia	5c. lb.	4c. lb.	—
" calcined	10c. "	8c. "	—
" sulphate	1c. "	7c. lb.	—
Mineral waters, artificial	30 p.c.	20c. gal.	—
Morphia	\$1 oz.	50c. oz.	—
Matches	35 p.c.	1c. 1,000	—
Mica	free	35 p.c.	free
Neatsfoot oil	25 p.c.	—	—
Oil (bay)	\$2 50 lb.	—	—
Olive oil, salad	25 p.c.	35c. gal.	—
Orange mineral	3c. lb.	3½c. lb.	—
Ochre, dry	1c. "	1c. "	—
Opium, crude	\$1 "	free	—
" prepared	\$10 "	\$10 lb.	\$12 lb.
Peppermint oil	25 p.c.	\$1 "	25 p.c.
Potash, crude	20 "	free	—
" caustic	20 "	1½c. lb.	—
" chlorate	3c. lb.	free	—
" sulphate	20 p.c.	1c. lb.	20 p.c.
Plaster of Paris, ground	20 "	\$1 ton	—
Polishing-powders	20 p.c.	—	—
Poppy seed	1c. lb.	30c. bush.	25c. bush.
" oil	—	30c. gal.	27c. gal.
Quicksilver	10 p.c.	10c. lb.	—
Rum essence	50c. oz.	1c. lb.	—
Soap, Castile	20 p.c.	1c. "	—
Sumac, ground	1c. lb.	1c. "	1c. lb.
" extract	20 p.c.	1c. "	—
Seal oil	25 "	8c. gal.	—
Soda, bicarb. and chrm.	25 "	3c. lb.	—
Saltpetre, refined	1½c. lb.	1c. "	—
Soda (b carb.)	1c. "	1c. "	—
Sulphur, refined	\$10 ton	\$8 ton	free
" flowers	\$20 "	\$10 "	—
Spices, ground (unenum.) ..	6c. lb.	4c. lb.	—
Sugar of milk	free	8c. "	—
Santonine	\$3 lb.	\$2.50 lb.	—
Sealing-wax	20 p.c.	—	—
Turpentine spirits	20c. gal.	free	—
Ultramarine	5c. lb.	4½c. lb.	—
Umber, dry	4c. "	1c. "	—
Varnishes	40 p.c.	5c. p.c.	—
" (spirit)	40 "	35 " and \$1.32 gl.	—
Vermilion	25 "	12c. lb.	—
Whale oil	25 "	8c. gal.	—
Wood tar	10 "	free	—
Wash blue	20 "	3c. lb.	—

The duties on the following articles will remain unaltered: Acid (citric, tartaric, and tannic), alumina, alkalies (unenumerated), alkalooids (ditto), borax, boracic acid and borate of lime, bichromate of potash, unenumerated barks, beans, berries, balsams, and buds, blacking, empty barrels and casks, cream of tartar, chamois skin, coal-tar and its products, unenumerated chemical compounds, collodion, dried insects, unenumerated ether, fruit essences, gums and gum resins, chemical glassware, unenumerated herbs, inks, litharge, leaves, alcoholic and non-alcoholic medicinal preparations, ground mustard, nutgalls, essential and distilled oils, extract of opium, phosphorus, potash carbonate, iodide, and prussiate, rapeseed oil, unenumerated roots and stems, soap (common and fancy), sponges, strychnine, Rochelle salts, soda ash and crystals, whole spices, seeds (unenum.), and toilet preparations (unenum.). The wholesale druggists are by no means pleased with the alterations proposed in the Bill, and they continue to petition against it through their organisations.

Trade Report.

Notice to Retail Buyers:—It should be remembered that the quotations in this section are invariably the lowest net cash prices actually paid for large quantities in bulk. In many cases allowances have to be added before ordinary prices can be ascertained. Frequently goods must be picked and sorted to suit the demands of the retail trade, causing much labour and the accumulation of rejections, not all of which are suitable, even for manufacturing purposes.

It should also be recollected that for many articles the ranges of quality is very wide.

42 CANNON STREET, E.C., July 10.

THE week under review has been an exceedingly quiet one in the drug and chemical markets, and there are very few alterations of any significance to report. In chemicals quinine has again declined a little. "Shilling quinine" has been witnessed for the second or third time within the history of that article. Carbolic acid is weak, bichromate of soda and potash lower, permanganate of potash also easier. Refined camphor is reported a shade dearer, though the market remains very quiet, and chlorate of potash has advanced, as have several of the heavy chemicals, notably bleaching-powder and caustic soda. In drugs we have to report a slight advance in ordinary grades of gamboge. Fine rhubarb also brings full prices, quince seed is a little dearer, and quillaya is also higher. Beeswax sells well. Medium grades of cardamoms, fine vanilla, Sumatra benzoin, ipecacuanha, jaborandi leaves, fine Tonquin musk, Curaçao aloes, nux vomica, and cubebs were also somewhat easier at to-day's auctions. In the outside markets we have to report lower prices for arrowroot, black and white pepper, Cochin and Jamaica ginger, Zanzibar cloves, and chillies. Indigo is advancing, shellac is also firm and somewhat dearer, cutch remains very steady, China galls dull, gambier dull. Castor oil is firm. Cod-liver oil, linseed oil, cocoanut oil, turpentine, and petroleum are dearer.

THE CHEMICAL SYNDICATE is continuing its negotiations for the purchase of the alkali factories on the Tyneside. It is anticipated that the organisation of the syndicate will be completed by October 1 next, when the promoters of the syndicate will issue a prospectus showing on what lines they propose to carry on the trade, and soliciting the public to invest in the concern. If the negotiations should succeed, the combination will be the biggest thing of the kind in this country. The capital of the Salt Union was 4,000,000*l.*, but the alkali-works will involve at least double that amount of money.

MESSRS. LEWIS & PEAT.—A topic of conversation in Mincing Lane during the week has been the probability of an alteration in the firm of Messrs. Lewis & Peat, the well-known drug brokers. The announcement was made by Mr. Samuel Figgis, an active partner in the firm, and from the prominent position which the house occupies it excited much interest.

ACIDS.—*Carbolic*: The demand from the Continent has fallen off to some extent, although prices remain still the same. *Crystals* (34° to 35°) can be had from 7½*d.* per lb., and liquid from 11*d.* per gallon upwards. *Citric* has been rather firmer this week, and there are buyers now at 1*s.* 3*d.* per lb. The following figures relate to the imports of lemon-juice and shipments of *Citric* acid from this country: Concentrated juice, first six months, 1890: imports into London and Liverpool, 3,059 pipes; citric acid exports from London, 3,219 cwt. *Tartaric* remains very flat at 1*s.* 1½*d.* up to 1*s.* 3*d.* per lb., according to brand and quality. *Oxalic*: quiet at 3½*d.* per lb.

ALOES.—*Cape aloes* without demand, but the holders are not willing to accept less than 24*s.* 6*d.* for fine hard quality. Only one lot of good quality was sold at 24*s.* to-day. *Curaçao*s of common quality are in large supply, and selling cheaper than ever. About 500 packages were disposed of to-day; good red liver at 35*s.*; fair dark brown liver, 23*s.*;

good bright Capey, 15*s.* 6*d.* to 17*s.* 6*d.*; dull to common over-heated, from 13*s.* down to 8*s.*; ordinary Capey and gourds, 12*s.*; and a large quantity of very common gourds (without reserve), at the rate of 2*s.* per cwt., if paying charges. A lot of fair brown liver Barbadoes sold at 26*s.*, and six boxes fair red *Socotrin* was bought in at 6*l.* per cwt. nominally.

ANISE.—*China star-anise* remains scarce and very dear, and for six cases good bright spurious *Japan* seeds 32*s.* 6*d.* was refused to-day, and the lot bought in nominally at 45*s.*

ANNATTO.—Fifty-two bags Ceylon seeds sold at very low prices indeed; bright at 3*s.*, dull to ordinary low at from 1*d.* to ½*d.* per lb.

BAEL FRUIT.—A parcel of 94 packages partly mouldy and shelly fragments was shown to-day, and bought in at the nominal price of 2*d.* per lb. There is very little chance that that price can be realised.

BALSAM COPAIBA.—Rather quiet and neglected. Four casks fair thick *Maranham* were bought in to-day at 2*s.* 3*d.* per lb. Five 2-cwt. barrels of fair thin *Pará* were also bought in at the nominal price of 2*s.* 6*d.* per lb.

BICHROMATE OF POTASH.—Since the termination of the convention at the beginning of the month, brought about, it is said, by the underselling privately of some of the parties to the combination, the price has been reduced 1*d.* per lb. The quotation is now 3½*d.* to 3¾*d.* per lb., and 2½*d.* to 2¾*d.* per lb. for *bichromate of soda*.

BROMIDES have been advanced 1*d.* per lb. in price. *Ammon. brom.* to 1*s.* 10*d.* per lb.; *Pot. brom.* to 1*s.* 8*d.* to 2*s.* per lb., according to packing; *Sodæ brom.* to 1*s.* 9*d.* per lb.

BUCHU remains scarce and dear. Six bales round yellow leaves were shown to-day and bought in at 6*d.* per lb.

CALUMBA.—A few lots offered to-day, and 30 bags were sold at the high price of 20*s.* for fair root of mixed sizes, rather dull in colour. For another lot very small, but good bright yellow root, 12*s.* 6*d.* was refused, the price being 15*s.*

CANOMILES.—Fine white *Belgian* flowers are quoted at 40*s.* per cwt., but there is very little demand for the article at present. One or two lots were offered at the auctions to-day, but the prices are merely nominal.

CAMPHOR (CRUDE).—The market is exceedingly dull, and on the spot 160*s.* is the nearest quotation, but we do not hear of any business. At to-day's auctions 40 tubs were offered, and bought in at 175*s.*, though it was said that there was a bid of 150*s.* for it, which we did not hear. For forward delivery there are no reliable quotations, and if anyone wants to sell there is no doubt he would have to take much lower prices than those nominally quoted. Six hundred tubs have arrived from Japan this week.

CAMPHOR (REFINED).—Quiet, though the German agents ask ½*d.* advance since last week, and now quote 1*s.* 7½*d.* for *Bells*, usual terms. *English bells* unchanged. The 10 casks *French bells* which were offered at the last auctions came up again for sale to-day, and were bought in at 1*s.* 7*d.* per lb.; no bids were made.

CANELLA ALBA.—Rather scarce. Two bales fair to broken quill sold to-day at 24*s.*

CANNABIS INDICA.—Ten cases very good green tops, with little stalk, were bought in to-day; they cannot be had under 6*d.* per lb., and an offer of 4½*d.* was refused. We hear that privately 5½*d.* has been paid for similar quality, which is the full price.

CARDAMOMS.—Medium and ordinary qualities are in good supply and mostly cheaper to buy, but good cardamoms continue to realise fairly steady rates. The greater part of what was offered to-day was bought in. Among the lots sold were the following:—*Ceylon Malabar*: Bold yellow, 1*s.* 8*d.*; medium-sized, 1*s.* 4*d.*; small, 1*s.* 2*d.*; pale smooth medium size, rather long, 1*s.* 8*d.*; smaller, 1*s.* 5*d.*; brownish and specky, 1*s.* 3*d.*; good round to brown mixed, 1*s.* 5*d.* per lb. *Mysore*: Good, full medium to bold pale round, 2*s.* 6*d.*; smaller size, 1*s.* 6*d.* to 1*s.* 7*d.*; medium to brown mixed, 1*s.* 4*d.*; good medium to bold size, palish but rather dull colour, 2*s.* 1*d.*; brown ditto, 1*s.* 4*d.* to 1*s.* 6*d.*; and small, 1*s.* 2*d.*; pale full medium to bold long, 1*s.* 10*d.* to 1*s.* 11*d.*; medium size, 1*s.* 6*d.*; and small, 1*s.* 1*d.*; small

round brown, 1s. 3d. down to 11½d. *Tellicherry*: For fair brownish quality 1s. 1d. was refused, the parcel being held for 1s. 2d. Three cases medium, rather shelly, sold at 10½d. Seeds brought 1s. 4d. to 1s. 5d.; and a parcel of ordinary shelly *Wild Ceylon* was bought in.

CHLORATE OF POTASH.—Prices are decidedly firmer since last week, and whereas 4½d., less 6 per cent., would have been accepted a short time ago, the price to-day is 4¾d. to 5d.

CINCHONA.—The exports of cinchona from Ceylon during the periods between October 1 and June 28 are given as follows:—1889-90, 6,420,000 lbs.; 1888-9, 8,250,000 lbs.; 1887-8, 8,715,237 lbs.; 1886-7, 11,144,349 lbs. The arrivals by rail at Colombo during the same period were:—1889-90, 1,675 tons; 1888-9, 2,755 tons. At to-day's auctions a few packages fair South American *Guayaquil* bright grey mossy quill sold at 1s. 4d. to 1s. 6d. per lb.

COCAINE.—The following statement is made by Messrs. C. F. Böhringer & Sons: "Just as in civilised lands general prosperity is accompanied by increased consumption of spirituous drinks, so in Bolivia and Peru the natives under such circumstances indulge more largely in coca-chewing. Such has been the case this year. Having obtained much better prices for their wool, the natives have consumed coca very freely, and the surplus of leaves for manufacturing purposes has consequently been small, and commanded high prices. Raw cocaine and cocaine hydrochlorate have nevertheless fallen. In face of the fact referred to, this decline cannot be expected to last, and either coca leaves must become cheaper, or cocaine quotations must rise, and of the former eventuality there is no prospect whatever at present."

COCA LEAVES.—No South American leaves were offered to-day, but there were two parcels from the Kelvin estate in Ceylon, together 784 lbs. The quality was excellent, and the leaves (of the dark-green *Huanoco* variety) were beautifully cured, and of fine taste and flavour. One-half found buyers at the comparatively cheap rate of 1s. 2d. per lb.

COCCULUS INDICUS.—A parcel of 134 bags was bought in to-day at 10s. 6d. per cwt.

COLOCYNTH.—Prices are well maintained. Some fair, yellowish, but very seedy *Turkey* apple sold to-day at 1s. 2d. per lb.; for good pulp, without seed, 2s. 3d. per lb. was paid. And 10 cases colocynth imported from Africa sold at from 2½d. to 7d. per lb., according to quality.

CREAM OF TARTAR.—The market is very dull at 101s. per cwt. for best white *French* crystals.

CUBEBS.—Tending lower in face of the accumulating supplies. For eight bags genuine, but very stalky and dusty berries, direct import from Java, 18l. was suggested, and the parcel bought in at 21l. Another lot of very bold mixed berries, without stalk, is held for 21l., and at that "reduced price" the usual fair commercial quality is now also offering.

CUMIN SEED.—*Malta* seed is still easing off in value. The price for fair quality is now 23s. 6d. per cwt.

CUTCH.—Prices are well maintained, and sales reported this week of *Flag CS* brand at 29s. to 31s. per cwt.

CUTTLE-FISH BONE.—Thirteen cases small to medium discoloured, from Bombay, sold at 1¾d. per lb., and some small white pieces at 2¼d. per lb.

DRAGON'S BLOOD.—For four cases rather bricky broken finger out of reed 85s. per cwt. was refused.

ERGOT OF RYE.—Good *Spanish* was bought in to-day at 1s. 4d. per lb., and four cases ordinary quality sold without reserve at 12½d. per lb.

EUPHORBIA PILULIFERA.—A parcel of fair bright *East Indian* herb sold at 1s. per lb., and a 3-cwt. bale of stalky and dusty *Australian* was bought in at the same price, 6d. per lb. being suggested.

GALANGAL.—For 28 bags good bright root the price of 14s. 6d. per cwt. was suggested.

GAMBOGE.—Of 17 cases offered to-day 10 were sold at 11l. 17s. 6d. for fair loose pipe, partly broken, of reddish fracture. For discoloured bold, loose pipe and lump, ricey fracture, 9l. 2s. 6d. to 9l. 5s. was paid, and for small dull chips 8l. 10s. per cwt. These were very high prices.

GLYCERINE.—No change in price. There is nothing offering under 60s. second-hand double-distilled S.G. 1,260.

GUM AMMONIACUM.—One parcel fine pale loose drop was shown, and bought in at 6l. per cwt. Another lot of dark and drossy drop was also bought in at 30s. per cwt.

GUM ARABIC.—An unusually good supply of fine white *Mogadore* and *Cape* gums was offered at to-day's auctions, and the best lots were well competed for by the druggists. Fine pale drops, slightly dusty, sold for 15l.; fair ditto, rather more dusty, for 11l.; even small grain at 8l. 5s.; and yellow ditto, 7l. 10s. to 8l. per cwt. Of *Cape* gum some fine pale drop sold at the high price of 10l. 10s., while for grains from 55s. up to 5l. 7s. 6d. was paid. Four cases picked *Turkey* grains sold without reserve at 10l. 5s., while a very fine parcel of picked *Trieste* gum was bought in at 25l. per cwt.

GUM ASAFÆTIDA.—Some 280 cases were announced for sale to-day, but only a very few lots actually changed hands. The bulk was of very inferior quality, purposely or accidentally adulterated with hard stone. Some good part free, part blocky almonds, mixed with dross, sold at 36s. to 40s. per cwt. Ordinary heavy and sandy block brought 17s. to 18s. per cwt. Another small lot of the asafætida to which we have recently referred was sold to-day at 27s. 6d. for rather dirty pickings, and 15s. for common seedy dust.

GUM BENZOIN.—A good assortment of *Sumatra* gum was mostly bought in to-day, but about 25 cases sold at slightly lower prices: Seconds, good almond centres, fine flavour, rather reddish borders, at 7l. 17s. 6d. to 8l.; browner ditto, at 7l. 2s. 6d. to 7l. 7s. 6d.; medium, almondy, with broad red borders, 7l. 15s.; small boxes rather brown and false-packed, 6l. 12s. 6d. *Penang*, old fracture, fair almondy, rather false-packed, 92s. 6d. to 95s. *Palembang*, fine almondy, in boxes, 65s.; fair thirds, almondy, mixed, 28s. per cwt. Of *Siam* gum a few cases good dark-brown hard block, with small almonds, was bought in at 7l. per cwt.

GUM ELEMI.—Fine white gum is exceedingly scarce, and would no doubt bring very high prices. Twenty-five barrels genuine *Manilla* of good flavour, but very dirty, were bought in at 40s. per cwt.

GUM EUPHORBIIUM.—Twelve serons even good drop, mixed with dust, bark, and heavy stones, are held for 12s.

GUM MYRRH.—Several lots of rather dark and dusty *Aden* sorts were shown to-day, and bought in at 80s. to 85s.

HONEY.—Several parcels *Jamaica* honey sold to-day at good prices: Slightly dark to fair thick yellow at 30s. to 34s. per cwt.; fair brown liquid, 29s. to 32s. per cwt. Fourteen packages from New York, dull and rather dirty brownish candied, sold without reserve at 20s. to 20s. 6d. per cwt.

INSECT-FLOWERS.—Quiet, with few orders. We do not make any alteration in the prices since last week.

IPECACUANHA.—Of 55 packages 40 sold at a decline of 1d. per lb. The quality was not particularly fine, and the broker who held the remaining 15 serons declined to sell at the current rates. Sound partly wiry to fair root brought 6s. to 6s. 2d. per lb.; and mouldy and sea-damaged ditto from 5s. 11d. to 6s. 2d. per lb.

KAMALA.—One case of fair sifted kamala sold to-day at 10d. per lb., which was the last quotation.

KOLA NUTS.—Two bags very ordinary mouldy kolas realised 6d. per lb.

JABORANDI LEAVES.—Six bales sold to-day at much lower prices than have recently ruled in the private market. Fair, but stalky, 5d. per lb.; ordinary stalky yellow, or dark and damp, 2d. to 3d. per lb. For another parcel of 3½ cwt., ordinary yellow and very stalky leaves, 8d. per lb. is asked, but there were no buyers.

MORPHIA firmly held at unchanged prices.

MUSK.—There is still a fairly good demand for *Tonquin* pods, but at to-day's auction prices were a shade in favour of buyers. Three caddies first pile, thin blue skin, well trimmed but damp, brought 80s. 6d. per oz.; for a parcel of partly thin-skinned, partly old-fashioned pods, dry, good shape, and well trimmed, 69s. per oz. was refused, and yet another lot of good shape, dry and well trimmed, was bought in at 75s. per oz. Of third pile pods, six caddies sold: small

to bold, partly blue skin, partly old-fashioned but very damp, 50s. per oz.; part skin and underskin, very damp, 45s. per oz., and unsightly untrimmed, usual skins, very wet, 24s. 6d. per oz. Several bottles *Grain* musk sold at from 29s. to 35s. per oz.

MUSK SEED.—Twenty-five 1-cwt. bags of new import from Java, good quality, sold at 3½d. per lb.

NUX VOMICA.—Supplies are coming in freely, and, in addition to the recent arrivals, about 40 tons are at present afloat for London and no less than 586 tons for New York. At to-day's auctions 1,500 ½-cwt. pockets of *Cochin* seeds, part fair silky, part brown and perished mixed, sold with fair competition at a decline of about 6d. per cwt.—viz., 8s. to 8s. 9d. per cwt. Another lot of 156 packages (168 lbs. each) fair bold silky seeds were reported sold at 12s. per cwt., which would be a very full price.

OIL (CASTOR).—The Liverpool market remains very firm, with sales of good *Calcutta* seconds at 4½d. per lb. At to-day's auctions some yellow oil sold at 3¾d. to 4d. per lb. From Marseilles the quotations for *French* oil range from 28s. to 28s. 6d. for second, and 29s. 6d. to 30s. for first pressure, f.o.b. terms.

OIL (COD-LIVER).—Reported much dearer from Norway, where the stock is said to be running very low. Best new non-congealing oil is held at 57s., f.o.b. Bergen. Some good non-congealing old oil, however, sold in London at 45s. per barrel a few days ago.

OILS (ESSENTIAL).—There is very little alteration in any of the essential-oil quotations this week. Several lots of *Citronella* oil in bottles, tins, and tanks (the latter holding about 9 cwt. each), mostly mixed with petroleum, were offered to-day, and bought in at nominal prices. A case of 69 bottles *Otto of rose* (A F & K, green label) is held for 21s. 6d. per oz., an offer of 19s. 6d. per oz. being refused. It is now said that the final yield of the crop in Bulgaria has been 2,000 kilos., against 2,650 kilos. last year. The residue of last year's oil still in the hands of speculators and dealers in Bulgaria is estimated at 400 kilos. *Italian* essential oils are still advancing.

OPIUM.—The London market remains very firm, but without alteration in price since last week. Reports from Smyrna, dated June 28, say that no rain had fallen during the past fortnight, and the spring sowings were not progressing favourably. It was, therefore, now certain that the maximum opium crop this year, including Salonica and Malatia, would not exceed 4,500 baskets (or about 4,000 cases). Of this quantity the Salonica crop is all harvested, and has given about 1,200 cases of about net lbs. 140 each. Malatia, it was expected, would turn out about 500, and all other districts, including the Constantinople qualities, 2,800. Local speculators, in the expectation of higher prices later on, had been buying usual run *tale quale* at 11s. 7d. to 11s. 8d. per lb. f.o.b., and on June 28, 20 cases changed hands at 13s. 1d. per lb. f.o.b. The position in Smyrna as compared to last year at the same period is given as follows:—

June 30, 1889.

	Baskets
Crop yielded	5,500
In first and second hands	1,000
" " at Constantinople	550
" " in the interior	250
	7,300

June 28, 1890.

	Baskets
Estimated crop	4,500
In first and second hands	1,000
" " at Constantinople	500
" " in the interior	200
	6,200

The new opium, of which 43 baskets had arrived in Smyrna, shows a very satisfactory paste, good colour, and good proportion of alkaloids.

ORANGE PEEL.—Fair, rather brownish gelatine sold at 5½d. to 6d. per lb. to-day.

PERMANGANATE OF POTASH.—Prices are still declining, and small crystals are now being offered at 67s. 6d. per cwt. It is not unlikely that quotations may further decline.

PHENACETIN has been lowered 2d.—from 1s. 9d. to 1s. 7d. per oz.—in consequence of increased competition in its manufacture.

PILOCARPINE has advanced in price in consequence of the rise in jaborandi leaves, *pure* being now quoted at 1s. 6d. per gramme, *hydrochlorate* at 19s. per oz.

QUASSIA.—Nominally the recent prices were maintained until to-day, but at the auctions 18 tons logs sold "without reserve" at 85s. to 90s. per ton, a decline of 20s. to 25s.

QUICKSILVER.—The market is very quiet. The principal importers still quote 10l. 10s.; second hands are offering to-day at 10l. to 10l. 1s. per bottle. We have imported 900 bottles from Italy and 15 from Cape Town this week.

QUILLAYA.—Liverpool reports a fresh advance, and the price there is now 16s. 6d. per cwt.

QUINCE SEED.—Rather dearer, 6½d. to 6¾d. per lb. being freely paid for good *Cape* seeds to-day.

QUININE.—Lower: early in the week a sale of 15,000 oz. second hand *Brunswick* bulk at 1s. per oz. was reported. To-day there do not seem any further sellers at that price, though we think there would be buyers at the figure named.

RHATANIA ROOT.—Prices are well-maintained. Fine stout chumpy, but rather dark, at 6d. per lb.; small to fair bright chumpy, 4d. to 5d. per lb.

RHUBARB.—The 89 cases offered to-day met with a very good demand, especially from the home trade, and for fine qualities, of which there were several lots, very full prices were paid, while medium qualities and Shensi pickings also went rather above the valuations. One case of very fine bold flat *Shensi* root, good pinky fracture and bright coat, sold at the very high price of 4s. 6d. per lb. This is the highest price paid for rhubarb in public sale for several years. Medium to bold root, round, ¾ pinky, ¼ dark fracture, brought 2s. 6d. per lb.; ditto, rather rougher coat, and not so bold, 1s. 10d. to 1s. 11d.; small druggists' root, 2s. 6d. to 2s. 9d.; good flat pickings, 1s. 5d. per lb. *Canton* rhubarb, wormy, horny coat, round and flat mixed, brought 8d. per lb. *High-dried* fair coated flat, medium to bold, ¾ pinky fracture 1s. 3d.; small ditto, 1s. 1d. per lb.

SARSAPARILLA.—*Honduras* firmly held at 1s. 6d. per lb. for good brands.

SENNA.—The *Tinnevelly* leaves offered were nearly all second hand, and only a small part sold at 1½d. to 2d. per lb. for small yellowish and brown to greenish, and ½d. to ¾d. per lb. for rubbish.

SHELLAC.—At Tuesday's auctions 1,072 cases were offered, of which about 500 sold at a decline of 1s. per cwt. for *Orange*, while *Garnet* and *Button* showed no quotable change. Good to fine *Orange* brought 93s. to 95s.; good red V S O brand, 93s.; roddish to fair seconds, 89s. to 91s. *Garnet*: fair AC, 83s. to 85s. *Button*: fair seconds to first, 102s. 6d. to 105s.; inferior and dark fourths, 78s. to 85s. per cwt. Since then the market for delivery has hardened, and to-day it closes strong at the following prices:—

	July	Aug.	Sept.	Oct.	Nov.	Dec.
Orange TN, sellers ..	400 at	93/6	94/6	95/6	200 at	96/6
" buyers ..	92/	93/	93/6	94/6	95/	95/
	Garnet AC nominal.					

These prices show from 6d. to 1s. advance on last Thursday.

SQUILLS.—For 19 bags ordinary soft yellow ¾d. per lb. was refused, the price being 1d. per lb.

TEA.—China market: The new Monings have found more favour than was anticipated, and a steady trade has been done at full prices. The shipping contingent is very eager for the good quality pure Ningchows, and some of those sold the first day or two have been turned over on the market at substantial profits, while very full rates have been obtained for some of those that were held back by the importers for a few days. The absence of tarry teas is a noteworthy feature of the first cargo, and it is to be hoped that the Oonfas and Ningchows in later shipments may be much freer from tar than those of last season. Old teas are quiet, with an easy tendency for the 5d. grades. Tea for price is steady. New scented Capers are coming forward in fair

quantity, and are well received, high prices being paid for good liquoring teas. The Indian market is well supported, and 8d. is the lowest quotation for passable leaf tea. New season's Doars teas are good, and go readily into consumption, the supply of finer grades of tea of last season having for the past two months been so very small. Ceylons keep very firm, and the lowest grades show a slight advance on last week's prices, scarcely anything being obtainable in leaf tea under 8½d.

VANILLA.—About 150 tins were offered to-day, and found a good market at steady prices for all except the best lots, which were slightly easier. Fine chocolate, slightly crystallised, 5½ to 9½ inch, 10s. 6d. to 13s.; 7 to 8 inch, 13s. 6d. to 17s.; 8 to 9 inch, 17s. 6d. to 19s.; good black, 5 to 6 inch, 10s. 6d. to 11s.; 7 to 8 inch, 14s. to 16s.; rather brownish, 5 to 6½ inch, 8s. to 9s.; 7 to 8½ inch, 11s. to 14s.; ordinary brown, 4½ to 6 inch, 7s. 6d.

WAX (BEES').—Selling at steady prices; fair grey bleached *Calcutta* at 6l. 15s.; *Jamaica*, fair reddish and brown mixed to rather dark and dull, 5l. 17s. 6d. to 5l. 2s. 6d.; fine *Australian*, 6l. 2s. 6d. to 6l. 5s.; dark mixed ditto, 5l. 10s.; ordinary *Mogador*, 90s. per cwt. (a finer lot was bought in at 6l. per cwt.).

CHEMICALS IN THE NORTH OF ENGLAND.

THE MARKET FOR HEAVY CHEMICALS has been much excited during the past few days, consequent upon the favourable progress made in the negotiations relating to the proposed formation of a chemical union amongst the Leblanc alkali manufacturers. For some time makers have anticipated the present position, and have been selling from month to month without committing themselves to forward business, and now that they have decided not to sell beyond the end of September there is quite a rush on the part of buyers, with inquiries for delivery to end of this and over next year. To give an idea of public opinion about the formation of the union, shares of one of the leading chemical firms, which were selling a month or two ago at 25s., are now quoted 60s., an advance of 140 per cent. per share.

The articles which have chiefly advanced in price are caustic soda, bleaching-powder, and chlorate of potash.

THE EXPORTS OF CHEMICALS from the Tyne for the first six months of the year show a considerable increase over the same period of the previous year, bleaching-powder being responsible for the greater portion of the increase.

	1839	1890
	Tons	Tons
Alkali and soda ash	6,594	7,357
Bicarbonate of soda	47	43
Bleaching-powder	9,884	13,761
Artificial manure	3,215	6,665
Soda crystals	9,455	8,524
Sulphate of soda	268	1,297
Caustic soda	—	4,813
Other chemicals	12,529	5,181
Total tons	41,992	47,641

BICARBONATE OF SODA firm at 5l. 15s. to 6l. per ton, less 2½ per cent. discount for 1-cwt. kegs, f.o.b. Liverpool, and lower prices in proportion for larger-sized casks.

BLEACHING-POWDER has been very excited, particularly in the Tyne district. Heavy sales have been made at 5l. 5s. per ton for prompt delivery, and for delivery July to September makers ask 5l. 10s. to 5l. 15s. per ton; but some makers are not particularly anxious to sell. Liverpool market is also much firmer, and prices there are also higher. 5l. per ton on rails for softwood casks, and 5l. 5s. per ton for hardwood casks, f.o.b. Liverpool, both less 2½ per cent. discount, prompt delivery. There are numerous inquiries for forward, but makers will not quote. For delivery ex ship Thames 5l. 15s. to 5l. 17s. 6d. per ton for prompt, with usual extras for small-sized casks.

CAUSTIC SODA.—Market bare, and prices have rapidly advanced: 60-per-cent. 8l. 7s. 6d. to 8l. 10s. per ton, 70-per-cent. 9l. 7s. 6d. to 9l. 10s. per ton, 74-per-cent. 10l. to 10l. 2s. 6d. per ton, all less 2½ per cent., f.o.b. Liverpool; 77-per-cent. 10l. to 10l. 10s. per ton; ground and packed in 3-4-cwt. barrels, 13l. to 13l. 10s. per ton, net cash, f.o.b. Tyne. Market very firm.

CREAM CAUSTIC firmer: 7l. to 7l. 2s. 6d. per ton on rails, and 7l. 5s. to 7l. 7s. 6d. per ton, less 2½ per cent. discount, f.o.b. Liverpool, according to make.

CHLORATE OF POTASH in better demand, and prices advanced to 4½d. to 4¾d. per lb., less 5 per cent. discount, at usual ports of shipment.

HYPOSULPHITE OF SODA firm and unchanged in price: 5l. 5s. and 5l. 15s. per ton for 1-cwt. kegs and casks respectively, less 2½ per cent. discount, f.o.b. Tyne.

SODA ASH.—More doing, and prices firmer: 1¾d. to 1½d. per degree for carbonated, and 1½d. to 1¾d. per degree for caustic, f.o.b. Liverpool, less 2½ per cent. discount. Newcastle, carbonated, 1¾d. per degree, less 4 to 5 per cent. discount.

SODA CRYSTALS firmer: 3l. to 3l. 1s. 3d. per ton on rails, and 3l. 5s. to 3l. 6s. 3d. per ton f.o.b. Liverpool, net weight; 2l. 10s. 6d. to 2l. 11s. per ton in casks, gross weight; 2l. 11s. per ton, in 2-cwt. bags, net weight; and 2l. 13s. 6d. per ton, in 1-cwt. bags, net weight, f.o.b. Tyne. Delivered ex-ship Thames, 2l. 17s. 6d. per ton, in casks, gross weight.

SULPHATE OF COPPER.—Market weak, and little doing. Sales at 21l. per ton, f.o.b. Liverpool, less 5 per cent. discount, prompt shipment. Lower quotations for delivery later on in the year; 20l. 10s. per ton paid for January to March, 1891.

SULPHATE OF SODA.—Firm and in better demand, at 27s. 6d. to 30s. per ton at Widnes and St. Helen's. Tyne prices, 30s. per ton in bulk, and 41s. per ton ground and packed in casks for shipment.

THE AMSTERDAM CINCHONA AUCTIONS.

AMSTERDAM, July 10.

AT to-day's public auctions 2,843 packages cinchona were sold at unit prices ranging from 8c. to 8¼ c. per ½ kilo. (= 1¾d. to 1½d. per lb.). The following were the prices paid:—Manufacturers' barks: Quills, broken quills and chips, 6c. to 71c. (= 1d. to 12¾d. per lb.); root, 15c. to 50c. (= 1½d. to 9d. per lb.). Druggists' barks: Quills, broken quills and chips, 11c. to 57c. (= 2d. to 10¼d. per lb.); root, 12c. to 21c. (= 2¼d. to 3¾d. per lb.). The principal purchasers were the Auerbach, the Amsterdam, and the Brunswick factories.

THE GERMAN MARKETS.

HAMBURG, July 8.

FOR the week under review we can report a quiet trade in all branches, and again most articles in the drug line rule in favour of the buyers.

ANTIMONY.—The demand remains rather small, but the article is kept at firm prices; spot, 95m.

BALSAMS.—*Copaiba* well maintained, and without any supply in first hand. *Peruvian*: quiet, but not to be had under 8½m.

CASCARA SAGRADA.—Declining, and now obtainable at 80m.

CINCHONA.—More money is asked for Porto Cabello. The recent arrival of 80 packages has been absorbed by the second hand. Importers have no further stocks of fine quality.

CONDURANGO.—Very flat, and there are no buyers even at 85m. Several small lots recently imported cannot be sold.

CAMPHOR (REFINED).—Without business price nominal, 340m.

HONEY.—More interest is shown for Chilian honey in consequence of the bad crop which we are having in Germany. Prices appear to be getting rather firmer. Other crops of honey may still be had cheaply.

JALAP.—Further small consignments have just come in from Mexico. If the quality turns out to be good, they are sure to realise high prices.

JABORANDI LEAVES.—A consignment of about 3,000 kilos. is expected within a few days, but the owners ask very high prices for it.

OILS (ESSENTIAL).—*Star anise*: The new packing in which this article is being placed on the market has disturbed the trade in it, and, although the quality of the oil itself is good, the trade is so unaccustomed to the new packages that holders have to take a little less in order to sell. *Cassia*: Also rather easier. *Peppermint oil*: Japan held for full prices, and selling freely.

WAX (JAPAN).—Unchanged, but may be had cheaply: it is offering at 85m. *Carnauba* still continues to advance. For *Grey*, 95m. has been paid, and for yellow 120m. is required.

A WOMAN IN BOSTON, MASS., has poisoned herself with strychnine. She was jealous of her husband, and mixed some strychnine with a glass of lemonade, at the same time pouring out a glass for herself. The husband refused his glass, and his wife said she would drink it to prove that it was harmless. During the talk the glasses had been changed, and instead of drinking the harmless liquid she swallowed the poison.

DOWN WITH THE DIPHTHONG.—The *Homeopathic World* spells its title as we have printed, and advocates the abandonment of the unnecessary "œ." "Having adopted homeopathy," it says, "let us adopt the word into the English language." One American journal of the same persuasion (the *Medical Advance*) has followed the example; and another (the *Southern Journal of Homeopathy*) did so for a time, but has backslidden. Concerning this, the *World* humorously remarks:—"As it confessedly only dropped the diphthong from scarcity of type, we do not regard this as a retrograde step. Perhaps we should rather congratulate it on its more opulent circumstances."

BRITISH AND FOREIGN SPIRITS BILL.—On the order for the adjourned debate on Mr. T. Healy's amendment to the Chancellor of the Exchequer's motion for the appointment of a select committee to inquire into the length of time during which certain classes of spirits should be kept in bond being reached in the House of Commons on Monday last, Mr. Jackson moved that the order be withdrawn and the Bill discharged, intimating that its provisions were covered by another order on the paper. Mr. T. Healy expressed his pleasure at the action which the Government had taken, and Sir Lyon Playfair hoped that care would be taken in the placing of restrictions on the sale of ether, which was very necessary to medical men. Mr. T. W. Russell remarked that in Londonderry the sale of ether was a source of positive danger, since it was sold in every little shebeen. The Bill was allowed to be withdrawn. Mr. Jackson moved that a select committee be appointed to consider whether on grounds of public health it is desirable that certain classes of spirits—British and foreign—should be kept in bond for a definite period before they are allowed to pass into consumption, and to inquire into the system of blending British and foreign spirits, in or out of bond, and into the propriety of applying the Sale of Food and Drugs Act and the Merchandise Marks Act to the case of British and foreign spirits and mixtures of British and foreign spirits, and also into the sale of ether as an intoxicant; that Sir Lyon Playfair, Mr. Somervell, Sir Henry Roscoe, Mr. T. M. Healy, Mr. Boord, Sir Edward Harland, Mr. Flynn, Colonel Hill, Mr. Hozier, Mr. M'Ewan, and Mr. Jackson be members of the committee; that the committee have power to send for persons, papers, and records; that five be the quorum. The motion was agreed to.

BRITISH AND FOREIGN CONSULS' REPORTS.

BRITISH WEST INDIES.

St. Vincent Arrowroot. The exports of arrowroot from the island of St. Vincent were, in 1889, 16,732 barrels, and in 1888, 15,458 barrels. The shipments of arrowroot promise to increase permanently in value in consequence of improved methods of manufacture, by means of which the commodity is sent to market in a much purer state than formerly.

In 1888 the cultivation of arrowroot received a severe check, when the best quality sold at a barely profitable rate, whilst the price of that prepared without the aid of good machinery fell to a point that did not cover the cost of reaping and manufacture.

CHINA.

Aniline Dyes. It is worthy of remark that no aniline dyes were imported into Newchwang last year, says the British consul in that city. It is said that the Chinese have come to dislike these dyes, and to find that those which they make themselves are more serviceable and cheaper in the end. So they are returning to the use of sapan-wood and their own dye-stuffs. On the other hand the consul at Kewkiang observes that dyes, principally of German manufacture, continue to form a considerable article of trade. Many of the colours chosen are not in the best taste, magentas and aniline greens, blues, and pinks being the favourite shades.

Chinese Camphor. The camphor trade of Formosa does not show any signs of improvement. The restrictions formerly imposed by the Government monopolists are nominally removed, but the difficulties and risks of getting the camphor down to the coast are so great that foreigners are not inclined to engage in the trade, notwithstanding the very high prices that have ruled in the Hong-Kong market lately. Chinese traders decline positively to deliver camphor at the port, and do not care much about touching the business at all. Practically, it may be said, the monopoly still exists, and the entire export of 1889 was only 709 cwt.

MOROCCO.

Mogador Olive Oil. Mogador olive oil is brought to the port of Mogador in Morocco from the inland country in skins of various animals, on camel-back. It is shipped principally to Great Britain, France, and the Morocco coast, a large quantity going to Tangier.

Olive oil in Morocco is so irregular and uncertain an article that in one year we may find the total shipments amounting to only about 100 tons, while the next year may give thousands. The large olive groves of Ras-el-Wad (literally "head of the river") in the province of Soos, suffered very severely from the droughts of 1879 and 1882; but it appears that these losses led to new trees being planted, which are now beginning to bear fruit, so that Mogador may perhaps ultimately regain its old fame as a considerable market for this article. In the neighbouring provinces of Makh and Shiadma, especially the latter, the olive tree forms a very important source of profit to the peasant farmers. But here it would appear that either the original quality, or the mode of preparation of the oil, is not equal to that of Soos, there being often a difference of 5 per cent. in price in favour of the latter.

The yield begins to come to market in December, and the arrivals are kept up until the end of February.

Argan Oil. Argan oil is produced from the kernels of the berries of the hardy argan tree (*Argania sideroxylo*), which is abundant in the neighbourhood, large forests of it growing naturally without any cultivation of Mogador. It is much used locally, both for lighting and cooking purposes, and in plentiful years a good deal of oil is exported coastwise.

UNITED STATES.

Californian Quicksilver. The total production of quicksilver in California in 1889 amounted to 25,650 flasks, as against 33,250 flasks in 1888. The average price for the year is 9l. per flask.



Memoranda for Correspondents.

Always send your proper name and address: we do not publish them unless you wish: if you do not, please use a distinctive non-de-plume.

Write on one side of the paper only; and devote a separate piece of paper to each query if you ask more than one, or if you are writing about other matters at the same time.

If you send us newspapers, please mark what you wish us to read.

Ask us anything of pharmaceutical interest: we shall do our best to reply.

Before writing for formulæ consult the last volume, if you have it.

Letters queries, &c., will be attended to in the order received.

The Antipyrin Reaction.

SIR,—Mr. Millard is quite correct in pointing out that nitrite of potassium is employed in the test for antipyrin, and not nitrate, as it unfortunately appeared in my "Pharmacological Record." From the enclosed manuscript of my Record you will see that "nitrite" of potassium was actually written, and even printed in the earlier proofs of the work; it was eventually (as I have now learned) changed into "nitrate" by the printer's reader, who informed me that, while "nitrates" was a familiar word to him, he had never heard of "nitrites," and hence Mr. Millard will see that it was the printer and not the author who "perpetuated the error."

Yours truly,

63 Queen Victoria Street, E.C., July 5. H. HELBING.

[In the manuscript which Mr. Helbing shows us the word "nitrite" is written clearly enough.—ED. C. & D.]

An Unknown Iodide.

SIR,—“Double iodides,” fictitious or real, are certainly better known in photographic laboratories than in pharmaceutical dispensing departments. In making “iodisers” for negative and positive collodions, it was no uncommon occurrence to make “double iodides,” especially when using two iodides, one of which was soluble with difficulty in alcohol and ether. Whether there is actually any chemical combination is difficult to state with certainty; certainly the “double iodides” behave in many cases differently to the separate constituents. The method of making these so-called “double iodides” was proposed as early as 1857, but the originator I have unfortunately forgotten. The process is as follows:—The molecular weights of the substances, either in grammes or grains, are dissolved in as little distilled water as possible, the solutions mixed and evaporated to dryness, stirring being continuous towards the end of the process to granulate the salt, which is then preserved in stoppered bottles. In the case of ammonium and sodium iodides the weights would be, of course, ammonium iodide 145 parts, sodium iodide 150 parts. Probably, or possibly, this may be what the prescriber meant, in which case your suggestion as to the “equal parts of sodium and ammonium iodides” would not be far wrong. “Double bromides” were formed in the same way, and, as far as I can recollect, the reason assigned for this method of procedure was, first, that the double iodides or bromides were more stable than their respective separate iodides or bromides, and, secondly, that they were more soluble in alcohol or ether, or a mixture of the two.

Yours truly,

E. J. W. (85/41.)

The Preliminary Examination.

SIR,—If you advocate chemists looking pleasant under the trying circumstances to which they are at present exposed, we should advise you to walk into Holborn Town Hall when the next Preliminary takes place, and survey the sorrowful looks of the young embryos at the very beginning of their career.

We did so last Tuesday, and found about forty aspirants looking as if they were about to attend the funeral of a deceased aunt who had not left them anything, or as if their heads were crammed with several volumes of Ainsworth's Latin dictionary, surmounted by a pile of Colensos, Cæsars, and Morells, while a few were muddling their brains by endeavouring to snatch from a book a few forgotten hints.

One gentleman took delight in informing the company that this was his sixth appearance, and another “knew about as much as a dead cat,” which latter remark he no doubt considered very feeling, or rather feline. Then at the word of command they all march into the room two by two, take their seats at the table, heave a deep sigh “ab inno pectore,” get excited as they turn out pocket after pocket with the vain hope of finding the favourite pen which “dear mamma” has forgotten to put in either “receptacula omnium rerum,” and finally collapse exhausted, while the visage visibly lengthens as they essay the new steels supplied them. The lengthening on some of the countenances continues when the papers are handed round, until the resemblance to the Yankees' tall tree, which took two men to see to the top, faintly suggests itself to the mind.

One of the tables alarmingly shivers under the gigantic efforts of one member to control the mighty beatings of his heart, and his hand shivers and shakes, sending the words in serpentine twistings o'er the surface of the paper. We note, also, a few with the rampant look of a warrior rushing to battle, viciously digging the pen into the wooden table (greatly to the detriment of any point there might have been in their essay), and we resolve to carefully avoid them in the passage out.

Then, when lunch-time comes, it is truly wonderful how many “think they have failed”—no doubt with the happy conceit of being able to astonish their friends when the joyful tidings of success arrives. And as we return to our doling-out of penn'orths of pills and “ha'p'orths of 'air ile,” we almost unconsciously repeat part of a rhyme we recited in our early days with much gusto—

“But never mind—
The time will come
When we shall all be men:
I rather think things will be different then.”

London, N.

Yours truly,

PILL-BOX. (88/2.)

Pick-me-Ups.

Pick-me-ups, as a rule, are too medicated. Try the following:—

Rad. angelicæ	..	..	..	..	℥iiss.
„ gentian.	..	..	..	..	℥j.
Cort. aurant.	..	..	..	..	℥iv.
„ winteri	..	..	..	..	℥j.
„ cinnam.	..	..	..	..	℥j.
S. V. R.	..	..	..	..	℥ 32
Aq. destil.	..	..	..	..	℥ 48
Percolate, and add—					
Glycerini	..	..	..	..	℥ij.
Tr. limonis rec.	..	..	..	..	℥j.
Tr. croci	..	..	..	..	℥ 80
Tr. capsici	..	..	..	..	℥ 80
Marsala	..	..	..	..	℥xij.
Malaga	..	..	..	..	℥xij.
Sp. vin. gallici	..	..	..	..	℥xxiv.

Mature for a month or six weeks, then filter.

Try a bottle for yourself.

Nice.

Yours truly,

F. V.

A Masonic Lodge for Pharmacists.

SIR,—Might I be allowed, through the medium of your columns, to invite communications from chemists who are freemasons as to the practicability of establishing a lodge in London confined to pharmacists.

I am, dear Sir, yours faithfully,

2 Osnaburgh Street, JOHN W. T. MORRISON.
London, N.W., July 7.

Mr. Sicre's Accident.

SIR,—Permit me to correct the account which appeared in your issue of June 28 under the heading of "Liverpool." It was therein stated I was in the habit of taking morphia. This statement is false, and I therefore beg your insertion of this contradiction. On June 21, when suffering from toothache, I applied to my gums a quarter of a grain of morphia with the object of relieving intense pain. Unfortunately I did not take into calculation my debilitated condition, and hence the drug had an instantaneous effect, which would not have happened had I been in fair health. I hope this plain statement of fact will put me in a right position with your readers.

I remain, Sir, yours truly,
Thirlmerc Road, July 5. J. F. SICRE.

DISPENSING NOTES.

The opinions of practical readers are invited on subjects discussed under this heading.

Pills Sticking Together.

81/73. *Tip* wishes to prevent pills sticking together in warm weather. They are composed of podophyllin, ext. nuc. vom., ext. belladon., ext. aloes aquos. They have been a source of bother for twenty years. We presume they are a special preparation of *Tip's* establishment; if so, he might modify his formula, and try pulv. aloes instead of ext., or use a proportionate quantity of aloin and mass with p. tragacanth co. and the least possible quantity of water; roll in lycopodium or French chalk.

Ferri et Ammon. Cit., Quin. Hydrochlor., and Acid.

81/55. *D. M.*, in dispensing the following prescription, was surprised to find, instead of a nice clear ruddy brown solution, he obtained a mixture containing a dense reddish brown precipitate, which after a couple of days entirely dissolved, when the mixture had the appearance of a solution of quin. et ferri cit.:—

Ferri et ammon. cit.	..	..	..	..	3j.
Quin. hydrochlor...	..	..	..	..	3ss.
Acid. citric .	..	..	..	..	grs. cciv.
Aquam. ad ..	..	..	..	..	℥xii.

To be taken in effervescence with an alkaline mixture.

[This is a very interesting mixture, upon which we should like to learn the opinions of experienced pharmacists. Our idea is that the hydrochloric acid of the quinine salt breaks the combination of the iron and ammonia, the iron being precipitated as a basic chloride or hydrate, at first taking with it part of the sparingly soluble citrate of quinine; but, on standing, the iron and quinine ultimately form citrate of iron and quinine, while the ammonia is present as chloride. We find that by heating the mixture the precipitate is dissolved, forming at first a pale sherry-coloured solution, which gradually changes to one of a green colour. It would be interesting to know if the substitution of any of the other quinine salts behave in the same way, or if the appearance be changed by varying the order of mixing the ingredients.—ED. C. & D.]

87/37. Iodide of Iron and Creosoto Pills.—*A. J. F.* wishes our opinion upon:—

Ac. arsenios	..	..	..	..	gr. j.
Creosoti pur.	..	..	..	..	3j.
Ferri iodid.	..	..	..	..	3lj.
Iodoform	..	..	..	..	3j.
P. aromat.	..	..	..	..	q.s.

M. et divide in pil. lx. (in phial. vit. servend.).

He after some bother succeeded in making them with cera flav. as an excipient.

["A. J. F." will find the same class of pill, with our notes upon it, in our issue of February 23, 1889, page 279. The excipient there given is more likely to disintegrate readily

in the stomach than the wax when used alone, especially as in keeping—although soft at first—the pills become rather hard.—ED. C. & D.]

The Iron Mixture.

SIR,—If "A. P. U." (CHEMIST AND DRUGGIST, June 28, p. 876) will dispense the iron mixture with calx chlorinata he will be quite satisfied that the above was used for calci chlorid. This is not the first time I have noticed the same mistake made. I have dispensed many pounds of calci chlorid., and have never failed to obtain clear mixtures with tinct. ferri perchlor.

Hospital for Women, Soho Square, July 2. I am, Sir, yours &c.,
GEORGE ROE.

LEGAL QUERIES.

Birch Vale (86/33), *Perplexed* (86/55), and others have been good enough to write to us in reference to a reply given last week concerning patent-medicine licences. Their Excise officers have told them that in future separate licences will have to be taken out for each of their shops. The officers are quite right. The Customs and Inland Revenue Act, 1890, section 9, provides that "Every Excise licence to carry on any trade or business (except the trade or business of an appraiser, auctioneer, or hawker) which shall hereafter be granted, shall only authorise the person to whom the licence is granted to carry on the trade or business mentioned therein in one set of premises, to be specified in the licence."

82/66. *Lex.*—A grocer may sell poppy-heads. Morphia is included in the poisons schedule among "all poisonous vegetable alkaloids."

87/15. *Dampose*—It would not make it any more legal to sell methylated spirit on Sunday because it was ordered by a medical man, either in the form of a prescription or otherwise.

87/23. *Facta non Verba.*—It is not legal for an unregistered person to sell homœopathic remedies containing scheduled poisons.

84/36. *Viola.*—*Paregoric Substitute.*—If you will refer to this journal, April 26, 1890, page 561, you will see that magisterial decisions are hopelessly at variance in respect to the legality of selling this article, and as there has been no judgment by a superior court it is impossible to advise you, except to the effect that you are certainly safe in leaving the article alone.

MISCELLANEOUS INQUIRIES.

Addresses Asked For.—87/23. *D. P.* asks if we can favour him with the addresses of some druggists' sundriesmen. We can only reply by pointing to our advertisements, and cribbing from the famous epitaph, say, *Circumspice*. 84/37. *J. W.* asks for the address of the maker of "Bonson's Digestive Tea." The Universal Digestive Company (Limited), 64 Corporation Street, Manchester, inserted a circular about digestive tea in this journal, January 26, 1889, but we do not know if it was Bonson's. 86/31. *Oxen.*—Mr. P. Lauranson, 238 Blackfriars Road, is, or was, agent for Limousin's cachets for dispensing. 86/39. *Glasgow.*—You would get guttapercha corks from Poths & Co., 4 Creechurch Lane, Leadenhall Street. Pill-coating machines are supplied by the sundriesmen. We illustrated one in March, 1883, made by A. B. Clarin & Co., of Paris. 86/51. *Alpha.*—For seeds of *Triticum repens* apply to Potter & Clarke, Raven Row, Artillery Lane, E., though, being a weed, the seeds, we should think, are not much sought after. 87/31. *Ignorans.*—Garlic seed for chutney. This seems a curious order. We should think the bulbs are meant. Perhaps Messrs. Potter & Clarke could help you.

84/54. *E. (Aberavon)*.—The plant you send is the common clary (*Salvia verbenaca*). It was formerly used in diseases of the eye.

81/32. *J. S. W.*.—Your plant No. 1 is *Rhododendron hirsutum*, a native of the European Alps. No. 2 is *Eriophorum angustifolium*, or cotton grass.

61/64. *Pax Paris*.—For a cheap **Essence of Violets** use the following formula:—

Tincture orris	5 oz.
Essence jasmín	2 "
Essence cassie	1 "
Tincture vanilla	1 "
Tincture musk	2 drms.

A finer perfume is made as follows:—

Ess. violet	4 oz.
Ess. cassie	1 "
Otto rose	3 drms.
Tincture orris	1 oz.
Tincture ambergris	2 drms.
Tincture civet	2 "
Ol. amygd. ess.	20 minims.

The orris tincture is made by exhausting 8 oz. of powdered orris-root by 1 pint of pure alcohol. The tincture of vanilla is made from 6 oz. vanilla and 1 pint of alcohol. The tinctures of ambergris and civet from 1 dram each of the perfumes diffused in 2 drms. of orris powder, in 1 pint of alcohol. For the relationship between English and metric weights and measures see **THE CHEMISTS' AND DRUGGISTS' DIARY**.

85/23. *Cooper*.—**Eau de Quinine**, cheap, for hair wash:—

Quin. sulph.	grs. vj.
Canthar. acct.	3ij.
Glycerini	3iv.
Aq. rosmar. or mellis ad	3vij.
Liq. cocci	q s.

Dissolve quinine in acct. cantharidis; add the other ingredients, and filter.

82/73. *Spero*.—"Barber's Pharmaceutical or Medico-Botanical Map of the World" was published by Simpkin, Marshall & Co., Stationers' Hall Court, in sheets, 2s.; mounted and varnished, 3s. 6d. Try publishers, or advertise in our "Exchange Column."

81/12. *Carboy*.—**To Preserve Lard**.—Yes; try acid borie or borax. A teaspoonful to every 4 lbs. Insist upon vessel in which it is melted being kept clean. Pork-butcher frequently send it out in tinned vessels the bottoms of which are corroded, and the lard quite brown.

106/23. *N. S. S.*.—**A Good Wen Ointment Wanted**.—The only cure for wens is excision, but we have known both marshmallow and camphor ointment used as palliatives.

81/36. *Gallus Banckiva*.—**To Powder Dog Biscuits**.—Dry them well in a hot oven, or on a hot plate, on top of stove, then rub down in a metal mortar, and pass through a sieve. If large quantities are required, your better and cheaper method would be to send them to some drug and spice grinder. Powdered Bones you may obtain from almost any artificial-manure merchant.

86/44. *Belmont*.—**Lithia Water in Gazogenes**.—The B.P. lithia water is ten grains in the pint of water; but we doubt if the formula is often followed. The ordinary lithia water of trade seldom contains more than 2 to 5 grains to the pint. Place the lithia carbonate in the lower division of the gazogene, the ordinary acid and soda charge according to size in the upper division to generate the gas, set aside for a time, and shake occasionally.

84/16. *Student*.—**To Clean Piano Keys** which have become yellow, use either a solution of hydrogen peroxide or a weak solution of chloride of lime, and polish with putty-powder, using a soft rag with a trace of oil.

Romney.—**Tapeworms in Lambs**.—Try turpentine and linseed oil 3j. to 3j. One or two tablespoonfuls, according to size. Glycerine, pure, has been recently recommended in ounce doses for the human subject. It is certainly safe, and might be worth a trial.

85/67. *A. C. Porto*.—The method used by Surgeons to **Sterilise their Instruments** for operations is to have them placed for half-an-hour in a flat porcelain tray, with a solution either of carbolic acid (1-20) or of corrosive sublimate (1-2,000); after the operation the instruments are washed in hot water with soap, and polished with dry clean cloths before being put away in their case. Creolin may be used with advantage. The porcelain tray is similar to what is used by photographers for washing their plates.

85/25. *J. H.*.—**Egg Shampoo**:—

Ovi	3
Sap. mollis	½ oz.
Pot. carb.	2 drs.
Liq. ammon.	3 drs.
Aq. rose	28 oz.
Spt. vin. rect.	1½ oz.
Ol. bergam.	½ dr.
Ol. amygdal. ess.	gtt. x.
Ol. geran. gal.	gtt. x.

Sec. artem.

86/10. *Mag. Sulph*.—The smallest quantity of spirit necessary to **Preserve Concentrated Infusions** is 4 oz. in the pint. We presume you mean a concentrated infusion, either 1 to 3 or 1 to 7.

82/53. *G. G.*.—**To cement Glass Cylinder to Brass Top of Petroleum Pump**.—Try good plaster of Paris made into a paste with water; see that the apparatus is free from oil, and roughen the surface of glass with a file or emery paper. Your putty of red and white lead contained linseed oil, which would be acted upon by the petroleum.

86/4. *Calumba*.—**Chromic Acid Stains**, to remove from linen.—Soak in equal parts of liq. ammonia and water for a time; then, placing cloth over basin, pour boiling water through it.

83/53. *Jack III*.—**Fly Oils**.—See May 25, 1889, page 743. **Hydrarg. Perchlor. to Destroy Maggots**.—Make solution containing half-an-ounce to the pint of water, with about the same quantity of acid hydrochlor. oil, and use one tablespoonful to a pint of water for each sheep.

82/60. *H. E. S.*.—**Tinct. Lobeliæ Acid**.—We do not know of any published formula, but have known an acid tincture made somewhat as follows:—

Pulv. lobeliæ herb.	3iss.
Pulv. lobeliæ sem.	3ss.
Ac. acetic	3ij.
Aquæ ad	3xx.

Macerate the powders for six hours in the acid acetic; then add aqua; macerate for 48 hours with occasional shaking, and percolate one pint. Dose, same as B.P.

85/71. *Nil Desperandum* wishes to know "Why **Tonquin Beans don't grow** when planted in a hothouse?" Has anybody been able to grow them; if so, under what conditions? We suspect that in the process of preparation for the market the vital principle is destroyed.



SHOP BOTTLES & JARS

WITH VITRIFIED (burnt in) LABELS

(Black Letters on a ground of Pink or White Enamel).

Labels indestructible and of elegant appearance, forming an even surface with the glass or porcelain. The Jars of best porcelain, thoroughly greasproof. The Bottles hand-made and of superior quality. Both are unsurpassed by anything in the market in every respect. Also a CHEAPER sort of Bottles and Jars, with labels equally indestructible, but very plain, especially suitable for Dispensaries, &c. Intending Buyers are requested to inspect Samples at

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A large number of Shops have been fitted up with these Bottles and Jars, both in England and the Colonies, a list of which can be had on application.

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POISON BOTTLES of Ribbed Blue Glass, with RAISED White Vitrified Letters, and the Word "POISON" in Red at foot
DRAWER LABELS of Crystal Glass, with Bevelled edges and Vitrified Labels to match the above Bottles and Jars.
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and has been most successful in the treatment

Externally, of Diphtheria, Croup, Chronic Eczema, Psoriasis, Ulcers, Boils, Fissure of Tongue, Ear Diseases.

Internally, of Acid Dyspepsia, Chronic Gastric Catarrh, Anorexia, Dysentery, Chronic Diarrhoea, and other Diseases of the Digestive Organs.

Packed in bulk and bottles of 16, 8, 4, 1, and $\frac{1}{2}$ oz., or of 500, 250, 100, 25, and 15 grammes; each package has attached a **short and convenient test** for ascertaining quickly the efficiency of the **Papain**, and also an abbreviated report by E. G. Clayton, F.I.C., F.C.S., &c., treating on the value of Papain (Dr. Finkler & Co.) as a digestive ferment.

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TABLOIDS.—Papain (Dr. Finkler & Co.), packed in bottles containing 100 and 25 tabloids of two grains each.

GLYCEROL.—Papain (Dr. Finkler & Co.) and Acid Glycerine, packed in 1-lb. bottles and Winchester quarts.

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Exhibition, 1889.

(BRIGONNET).—The new analgesic, manufactured by Messrs. BRIGONNET & NAVILLE, La Plaine St. Denis (France), recommended for Neuralgia, Sciatica, Angina, &c., by Bardet, Gaudineau, Binet, Dujardin-Beaumetz, Desnos, and lately by Prof. Fraser, M.D., F.R.S., F.R.C.P.E., of Edinburgh. (See *British Medical Journal*, February 15, 1890, page 344.)

J. Hurley, M.D., Queen Camel, reports very successful treatment of Sciatica, Lumbago, Neuralgia, Locomotor Ataxy, Gout in the hand. W. Paley, M.D., Ripon, of Sciatica. B. Walker, M.D., Kirkby Stephen, of Facial Neuralgia. J. J. Meacham, Surgeon, Manchester of Angina Pectoris and Neuralgia. Geo. R. Gordon, M.D., Manchester, of Henneronia and Neuralgia. J. Young, M.D., Edinburgh, of Neuralgia. A. W. Martin, L.R.C.P., Manchester, of severe Neuralgia.

Packed in **one-ounce tins only**, closed with label bearing name, address, and registered trade mark of Messrs. B. & N., St. Denis.

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Externally, of Ulcers, Wounds, Skin Diseases, specially Impetigo, and Eczema;

Internally, of Articular and Chronic Rheumatism, Dysentery, Summer Diarrhoea, Cholera, Bleorrhagia, Gonorrhoea, Influenza.

Packed in card boxes of 7 lbs., 1 lb., $\frac{1}{2}$ lb., and $\frac{1}{4}$ lb., bearing the manufacturers' names.

TABLOIDS SALOL packed in bottles containing 100 and 25 tabloids of 5 grains each.

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Mono Carbonate of Soda	1'90
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It soothes the weary aching of CONSUMPTION, relieves the harassing Cough, and often prevents those sleepless nights so trying to the sufferer.

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Ditto	2 9	1 3 3
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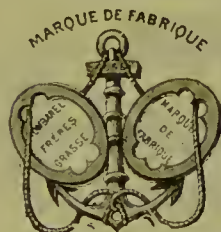
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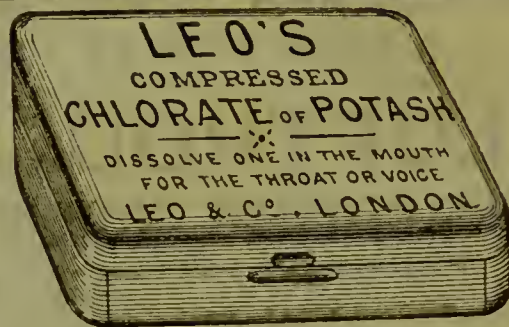
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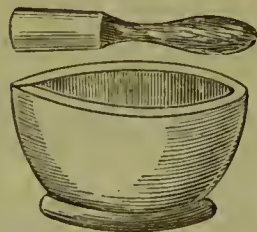
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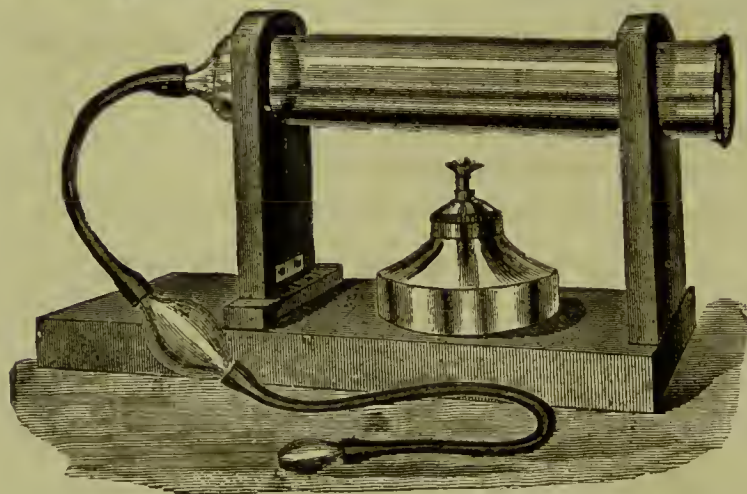
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From June 1, 1890, orders for Sea Salt and Sundries as per TIDMAN & SON'S price-list amounting to not less than £5 net will be forwarded carriage paid to any place in Great Britain or any port in Ireland in direct steam communication with London.

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**THE
ASSOCIATION for the SUPPLY of PURE VACCINE LYMPH,
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SOLE AGENTS FOR DR. WARLOMONT'S CALF VACCINE.**

Tubes, 2s. each; Half Tubes, 1s. each. Pomade in vials, 5s.

HUMAN VACCINE, from healthy children only, microscopically examined and source quoted. Tubes, two-thirds full, 1s. 5d. each; Tubes one-third full and Lan-
cet-charged points, 1s. each; Pin-points, 1s. 1d. each. Eighteen charged Small
Points, 5s. Tubes, two-thirds full (same as those mentioned above, but without
source), in quantities for export, 45 per 100 Tubes. Pin-points uncharged, 1s. per
dozen. Vaccine Ejectors, 1s. 3d. each, including postage. Vaccinations by appoint-
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with orders, payable to
Office hours, 10 to 4. Saturdays 10 to 2.

G. B. KENT & SONS

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GOLD MEDAL

At the Paris Exhibition, 1889, for
ENGLISH BRUSHES

See Advt. pp. 374 to 377 in "C. & D. Diary," 1890.

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MADE ONLY BY

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THE SOLE AND ORIGINAL MANUFACTURERS OF

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HAWES' PATENT SELF-ACTING SEALING JET

Adapted by The Apothecaries' Hall, and
leading Chemists, Stationers, and
Tobaccoconists.
Great saving in Gas and Labour.

QUITE NEW.

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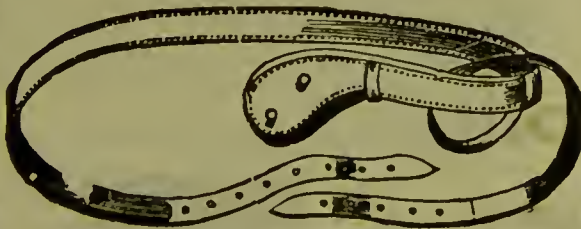
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Established 50 years. Telegraphic address—"ACME LONDON."
Telephone No. 6757.
Showrooms—29 PATERNOSTER SQUARE.

Manufacturer of Surgical Appliances.

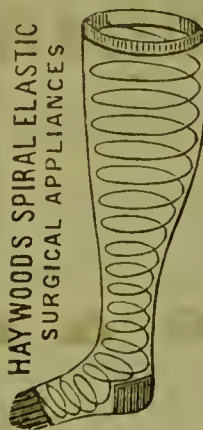
Trusses from 12/ per dozen single; double 18/
Chest Expanding Braces from 21/ per dozen.
Ladies' Abdominal Belts " 24/ "
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Elastic Stockings, from 4/ per pair, finest
quality.
Chest Protectors, Medicated Pine Wool Felt.
Scarlet Felt, and every other kind.
Suspensory Bandages from 2/ per dozen.Depots at Manchester, Belfast, Paris,
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purchase from their Wholesale Houses, or by ringing me up, Tele-
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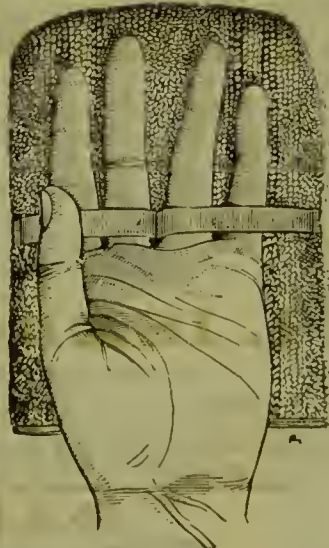
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Elastic Surgical Stockings, Knee Caps, &c.
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14,618. The Pile lying
over the Indiarubber
Cords, protecting them
and forming a smooth soft
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WATCH SMELLING-SALT BOTTLES

EXCEL ALL OTHERS IN THE MARKET.

The Caps are all fitted with INDESTRUCTIBLE WASHERS, to resist the action of Ammonia and retain the strength of the Salts.

Price, assorted white and coloured, 10/6 per gross (in 5-gross lots).

Chemists' and Perfumers' Bottles in great variety, Plain or Stoppered

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PURE TARTAR EMETIC.

PURE OXIDE OF ANTIMONY.

Showing 98 per cent. of anhydrous Sb_2O_3 .

This product is obtained BY A NEW PROCESS, and is offered at VERY ADVANTAGEOUS PRICES.

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The following are our present Greatly Reduced Prices for not less than 3 gross of assorted sizes:—

	Per Gross.		Per Gross
6 & 8 oz., Plain or Graduated	8/6	1-oz. Phials ..	3/6
3 & 4 oz. " "	7/6	1-oz. " ..	3/9
		1½-oz. " ..	4/6
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Packages, 1/ each, allowed for if returned.

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Reduces lumpy powders, sifts and mixes faster, and makes a more perfect blend than any Machine in the Market.

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FOR HAND OR POWER.

Capacities, from 15 to 300 lbs. at one motion.

STOKES' PATENT CHECK TILL SYSTEM.

A SOUND INVESTMENT.



Each Till has only to display 2d. per week deficiency to return 15 per cent. on outlay.

30,000

Sales Checked for

3 SHILLINGS.

Terms and full particulars on application.

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GLEDHILL'S PATENT AUTOMATIC CASH TILL.

The Largest, Cheapest, and Best Variety of Cash Tills in the World. Hundreds in use.

Acknowledged by those who have bought them to be the most perfect Tills ever invented.

SOLID MAHOGANY, IN FOUR SIZES.

No. 1 .. £8 8 0 } 1 and 2, to admit paper 3½ wide; 3 and 4, to admit
" 2 .. 4 15 0 } paper 2 in. wide. The paper is supplied 65 yards
" 3 .. 4 4 0 } long, in one continuous length, and ruled to any
" 4 .. 2 17 0 } pattern.

1,500 customers can be served on the narrow paper for One Penny.

Nos. 1, 2, 3 are fitted with a Special Check Action. This is a very ingenious invention for preventing the drawer being carelessly or wilfully left partly open.

This is a feature, besides many others, which no other till possesses—and thus it has been pronounced the Till of Tills.



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After thoroughly testing several Check Tills, we unhesitatingly say that the one you supplied us with, and which we have had in use for several months, is the best for Chemists' use.

The wide width of your paper is a great advantage, and forms a permanent record of business, as well as a perfect check.

Contrary to our fears, the use of the Till does not delay the quick serving of customers.

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PERFUMERY FACTORS' BOTTLES,

EVERY CLASS AND DESCRIPTION, PLAIN AND STOPPERED.

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POMADES, HONEY JARS, AND POTS.
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Cordial, Liqueur, & Beverage Bottles

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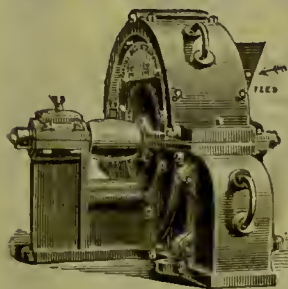
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Will Pulverise, Granulate, or Shred almost any Mineral, Vegetable, or Animal Substance.



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NEARLY 1,600 IN USE
In all parts of the World.

For Grinding Sugar, Bark, Linseed, Ginger, Pepper, Spices, Salt, &c., this Machine is invaluable
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Samples of ANY Material will be Ground free of charge.

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Special Mills for Laboratories, Mortar-mills, Sifting-machines, and Grinding-machines. Pill-making Machines, Silvering-machines, Coating-machines, Pill-printing Machines, Sugar-coating Pans, Machines for preparing and for cutting Pill-masses, Machines for manufacturing Lozenges, Machines for making Pearls and Gelatinous Capsules, Laboratory Presses, Mixing-machines, &c.

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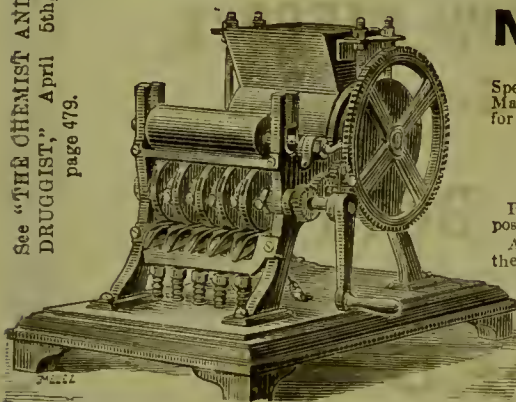
Pill-printing has long been considered a luxury, and remained in the hands of a Paris house, which alone possessed a proper coating process.

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The coating effectually protects the pills from alteration from whatever cause, in any climate or temperature. It is less costly than silver or sugar coating.

Thus, by our means, pill and granule printing has become quite practicable. It gives a superior appearance to the goods, besides which the printed inscription has the advantage of advertising the manufacturer's name, or of indicating the nature of the active principle.

See "THE CHEMIST AND DRUGGIST," April 5th, page 479.



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KNEADING AND MIXING MACHINE

FOR

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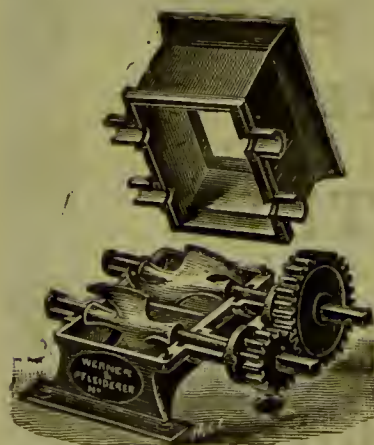
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Horse Balls, Tooth Pastes, Ointments, Soaps, Powders, and for general Mixing and Incorporating.

REPLACES WITH ADVANTAGE ALL OTHER APPLIANCES FOR THESE PURPOSES.

Made in various sizes, to do from $\frac{1}{2}$ lb. up to 1 ton at a time.

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Size 3, Type I, for 1-lb. Mass.

NEW CAPSULING MACHINE

The only Machine
which leaves no crease
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Can be fixed to any
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A single pull of the lever
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BURLINGTON BUILDINGS,

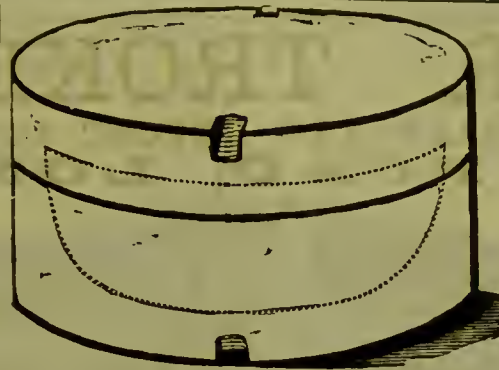
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TOOGOOD'S

IMPROVED PATENT

EARTHENWARE COVERED POTS

Are claimed to be the most
perfect and convenient yet offered to
the Trade.



Owing to the increasing demand
for our Patent Pots, we have in-
troduced a Special THIN Series
for Dispensing.

These Pots are beautifully
glazed and finished, and, being
very light, are specially adapted
for sending by post.

ORDINARY THICKNESS—

1 dr.	2 dr.	1/2	3/4	1	1 1/2	2	3	4	6	8 ounces.
1/8	1/6	1/6	1/8	1/10	2/	2/3	2/10	3/8	4/8	5/8 per doz.

THIN FOR DISPENSING—

1/2	3/4	1	1 1/2	2	3	4	6	8 ounces.
1/7	1/9	2/	2/2	2/5	3/	4/	5/	6/ per doz.

THE LACTOTHERME

(REGISTERED TRADE MARK) OR

INFANTS' PORTABLE MILK STOVE,

Patented in England and Abroad.

ADVANTAGES.

The Lactotherme heats milk exactly to the proper temperature at which it should be given to Infants, viz., 98 degrees Fahrenheit, this being the temperature of the milk from the mother's breast.

The Lactotherme does not cause the milk to turn sour.

The Lactotherme greatly benefits the health of Infants, as by giving food at a proper temperature, Colic, Diarrhoea, and Convulsions are guarded against.

The Lactotherme is portable, and may be as effectively used in a Railway Carriage as in the Nursery.

The Lactotherme will be also found a boon to Invalids for keeping warm Beef Tea, &c., during the night.

The Lactotherme is safe, cleanly, and effective, and burns without smell.

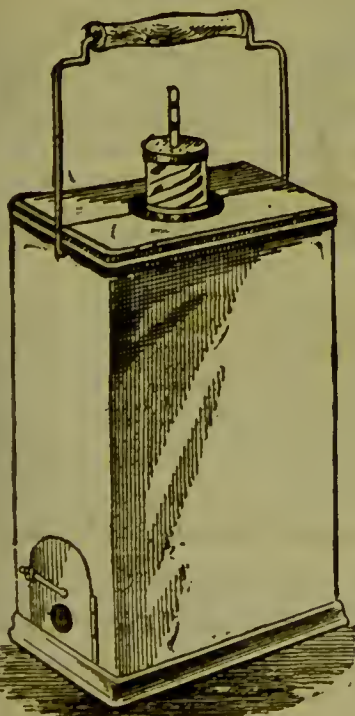
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No. 1. Japanned Iron, 6/- each. No. 2. Polished Brass, 8/6 each.
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Each Apparatus is furnished complete with Thermometer, Box of Prepared Carbon, Box of Wicks, and Float.

TOOGOOD'S PATENT BRONCHITIS AIR KETTLE,
51/- per dozen.

SOLE AGENT FOR DR. LEE'S STEAM DRAFT INHALERS.



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LAMENESS IN HORSES.

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50 YEARS' UNBROKEN SUCCESS.

SOLE MAKER & PROPRIETOR, J. ROOKLEDGE, CHEMIST, EASINGWOLD, YORKS
TO BE HAD OF USUAL WHOLESALE HOUSES.

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QUININE TONIC AND
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GELATINE
CAPSULED
HORSEBALLS.

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Alterative, Condition, Cordial, Cough, Diuretic, Fever, Physic, and Worm Balls.

QUOTATIONS & SAMPLES FREE ON APPLICATION.

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COLOUR OF PAINT.

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IN ALL THE ART SHADES.

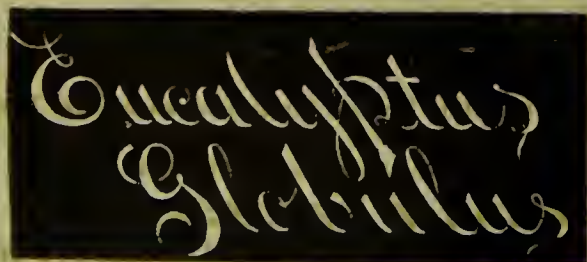
For all kinds of decoration on Wood or Iron. Dry with a surface like Porcelain. Sold in small or large Tins, or in bulk. Prices and shades on application.

WHITE LEAD, ZINC WHITE,
PAINTS & COLOURS OF ALL KINDS.

MIXED PAINTS READY FOR USE,
In Tins, 1, 2, 4, 7, and 14 lbs. each.

HIGH-CLASS VARNISHES

Of all kinds, for Coachbuilders, Decorators, &c. OIL BOILERS, REFINERS, & MERCHANTS. Export Orders receive special and prompt attention.



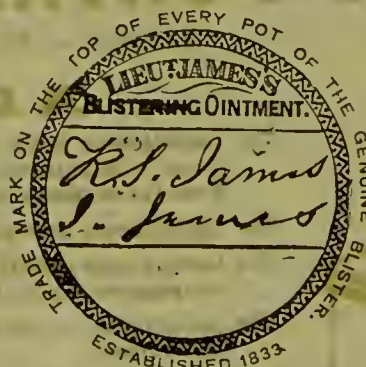
We distil pure oil of Eucalyptus GLOBULUS (which contain 86 per cent. of Eucalyptol, far in excess of any other variety) as a by-product in the manufacture of our Eucalyptus Boiler Fluid, and are therefore enabled to place it in quantities at a much lower rate than has heretofore been asked for it.

DOWNIE B. I. P. CO.

4 REDCROSS STREET, LIVERPOOL; and
204 MARKET ST., SAN FRANCISCO.

SEE INDEX, PAGES 29-31.

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That our efforts in this direction have been appreciated is proved by the number of *unsolicited* testimonials we have received from nearly every town in the country, of which the following is a specimen:—

GENTLEMEN,—

Please send 5 gall. 56 o.p. as before. I have pleasure in saying I have always found your spirit answer all tests, which is more than I can say of all I have had from different places, and also to be practically free from odour.

Yours faithfully,

Messrs. Stephen Smith & Co.

The Pharmacy, Morecambe.

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In consequence of the increase in the spirit duty our prices will be—

S.V.R. 56 o.p. ... 19s. 3d. | Double distilled, 56 o.p. 19s. 7d.

CASH WITH ORDER. REDUCTIONS FOR QUANTITIES.

SPECIALITY FOR PERFUMERY.

This pure grain spirit, which has been thrice rectified and filtered through charcoal, is being largely used in making high-class Perfumes.

Price 19/10, 56 o.p.; 20/4, 60 o.p. Cash with Order. Reductions for Quantities.

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THE ONLY BOX

That fulfils ALL the requirements of the POST OFFICE.

Is fastened INSTANTLY.
Cannot open by accident.
Is immensely strong.
Has no corners.
No seams, joints, nor solder.
Nothing to scratch or tear letters.
Is practically air-tight:—Is used
for Flour, Cherry Blossom,
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Dispenses with string, bags, and
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Saves 19 minutes out of 20.

OVER 300,000 SOLD.

SAVING THEIR OWN COST.

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BEESWAX.

W. H. B. PURE REFINED.

In 2-lb. cakes, in cases of about 130 lbs.

" 1 " " " 130 "

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" oz. cakes in 2-lb. parcels in cases of 54 lbs.

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In round cakes in 2-lb. parcels, or in oblong cakes, loose } In cases of 54 lbs
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Plain blocks of 7 1/2 lbs. in cases of 250 lbs.

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Plain round cakes in 2-lb. parcels in cases of 72 lbs.

The purity of these goods is certified by the following eminent chemists: S. P. Sharpless, State Assayer, Boston; J. W. Taylor, Associate of the Society of Public Analysts of Eng., Montreal, P. Q.; Edward Davies, F.C.S. and T. I. C. and C., Royal Institution, LIVERPOOL, Eng.; Bernard Dyer, D.Sc., F.C.S., F.I.C., Member of the Society of Public Analysts, 17 Great Tower Street, LONDON, E.C., Eng.; Wm. T. Wenzel, Analyst and Assayer, San Francisco, Cal., and may be obtained of any of the leading Wholesale Druggists in the Northern and Midland Counties.

We will deliver our goods in 5-cwt. lots ex quay, in any city which is the Terminus of a Steamship Line throughout the Kingdom, without trouble or expense to the Buyer. Our Goods may be obtained in single Case lots from any of the Leading Wholesale Druggists in the Northern and Midland Counties, and of

W. H. BOWDLEAR & CO., BOSTON, MASS., U.S.A.

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CARBOLIC POWDER, £6 TON.

1-ton lots and upwards.

CARBOLIC PINK POWDER, 5/-, 7/6, and 10/- per cwt., in bags or casks.

WHITE CARBOLIC POWDER, 10 %, 15 %, and 20 %, equally cheap.

HANDSOME LARGE DECORATED BLACK AND GOLD TIN BOXES,

Holding 1 1/2 lb. (usual 1/- size), 4/6 doz. Ditto, LARGE SIZE (usual 1/6 size), holding about double quantity, 6/- doz.

PALE CARBOLIC ACID, 99 per cent. (No. 5), and CHLORIDE OF LIME below market prices

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SANITARY FLUID or CREOSOL (to be used with 100 parts of water, making a milky fluid), half usual prices.

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Jars, 2-gallon, 2/6; 3-gallon, 3/; 4-gallon, 4/.
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